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ABSTRACT

Findings are reported for a project designed to improve subject access to books by augmenting MARC records with subject descriptions. A BOOKS data base, consisting of humanities and social science monographs, was created and made available for online searching. The availability of suitable information in books to produce augmented subject descriptions, costs associated with creating the data base, and benefits derived from searching the data base were explored. Findings include: (1) suitable information to select subject descriptions was available in 90 percent of the books selected for the study; (2) cost of selection and input of subject descriptions was about $5.00 per title with an average computer storage cost of $.30 per record/month; and (3) the average cost of a search was about $14.00 for 20 minutes. A controlled test of 90 searches comparing online searching of MARC and BOOKS records showed more relevant items were retrieved using the BOOKS data base. This greater precision together with lower costs for online searching than MARC searching and the ability to answer some queries not possible using catalog information were seen as the major benefits to be derived from searching BOOKS. Sample records, BOOKS user's manual, and searches conducted for the controlled tests are included in the appendices. (JPF)

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BOOKS ARE FOR USE

FINAL REPORT OF THE SUBJECT ACCESS PROJECT TO THE COUNCIL ON LIBRARY RESOURCES

FEBRUARY, 1978

IR005960

SUBJECT ACCESS PROJECT

STAFF

Pauline Atherton, Director
Bette Brindle, Research Associate
B.K.L. Genova, Assistant Project Director
Bonnie Gratch, Research Assistant
Karen Markey, Research Associate
Barbara Settel, Research Assistant
Jeffrey Simon, Research Assistant
Cheryl Willson, Executive Assistant

CONSULTANTS

Philip Beauchamp
Bruce Hillsberg
Matthew Koll
Terry Noreault

And a Cast of Hundreds (Selectors, Inputters, Proofreaders, Searchers, Relevance Judges, Critics, Supporters, etc.)

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The people at the University of Toronto, Robarts Library and at System Development Corporation made our project possible. Their cooperation and assistance were invaluable all through the project. I wish we could acknowledge our debt to each and every one of them, but this brief note will have to suffice.

To the many librarians, library school students, and information professionals who inquired about our project, used the BOOKS file on ORBIT, asked for demonstrations and talks on our project, we thank you for your interest and encouragement. Special notice here must be made of the staff at the Library of Congress for their keen interest and willingness to cooperate on comparative searches of BOOKS and SCORPIO. The people we spoke to at The National Library of Canada also exhibited great interest in our work and for this we are very grateful.

WHAT WAS LEARNED FROM THE SUBJECT ACCESS PROJECT?

In our original proposal for this project we stated that we wanted to find out about the following:

1) Availability of suitable information in books to produce augmented subject descriptions.
2) Cost of inputting these subject descriptions in machine-readable form.
3) Cost of computer storage of a BOOKS data base (MARC-like records augmented with subject descriptions).
4) Costs of online searching of a BOOKS data base.
5) Benefits derived from online searching of BOOKS.

In summary, we found that:

1) Suitable information which met our selection criteria was available in 90% of the books we systematically selected from the University of Toronto Libraries. Two hundred fifty-three books had to be rejected because they contained insufficient information on their contents pages or had no contents page and had no index. A large part of these 253 rejected books came from one part of the collection on post confederation Ontario history.

Suitable information was available to select subject descriptions which averaged about 300 words per title. The subject description we devised was created following selection rules. We had a quota system for each title, roughly 30 entries per book (i.e., an entry was a group of terms in a contextual phrase such as a chapter heading or index phrase).

The information (terms and phrases) in the subject descriptions did produce a useful vocabulary for online searching, with half the terms appearing in the subject descriptions for two or more books. Four thousand of the terms appeared in subject descriptions for 6 or more books. About 1,600 of these subject description terms matched with terms found in the Library of Congress subject heading for the books in the file. There were thousands more subject terms from these descriptions than from either the title or subject headings.

2) The cost of selecting and inputting these subject descriptions was about $5.00/title (including overhead) with most of the time and costs being the keyboarding, proofreading, editing and computer processing personnel time. The selection of the subject description took, on the average, 12 minutes per title.

3) At the System Development Corporation the cost of computer storage of our file was about $.30 per record/month. Initial start-up costs were about $1.00 per record. Online use of the file was set at $35/hour with $.08 for each offline print. Updates to the file were not made, but were estimated at approximately $.30 per record. The file was accessible 12 hours per day, 5 days per week via telecommunications ($8/hour).

4) Costs of the average sign-on during the BOOKS demonstration period were $14.00 for twenty minutes. During the controlled test period where actual queries were being searched, the average search required 8 minutes online for a MARC record search and 4 minutes online for a BOOKS record search. The offline prints averaged about six per search. These figures suggest that the average search would cost about $5.00 for MARC searching and $2.50 for BOOKS searching.

5) The benefits derived from online searching of BOOKS included:

a) Greater access to the books with relevant information.
b) Greater precision, insuring fewer non-relevant items in the search output.
c) Less costly online searching than MARC searching.
d) The ability to answer some queries impossible using today's catalog information.

During controlled tests the present-day catalog record (MARC) and the BOOKS record were searched following a randomized block, repeated measures experimental design. The comparison of the results from 90 searches showed that

a) MARC retrieved 56 relevant items while BOOKS retrieved 130 relevant items. Only 14 relevant items were retrieved by both MARC and BOOKS searches.
b) The average precision of MARC searches was 35%, BOOKS searches was 46%.
c) The average MARC search took twice as long online.

This comparison did not change when either searches for humanities or social science were studied separately.

TABLE OF CONTENTS

		Page
PART I.	REVIEW OF PROJECT PLAN AND OBJECTIVES	1
	A. Specific Aims	1
	B. Significance of this Project	1
PART II.	AUGMENTING CATALOG RECORDS SELECTION AND INPUT -- PROCEDURES AND COSTS	5
	A. Introduction	5
	B. Preparation for Input	11
	C. Quota System for Subject Description Selections and Projected File Size	13
	D. Time and Costs of Selection and Input Procedures	16
	E. Creating the BOOKS Data Base on SDC/ORBIT	17
	F. Subject Access Project Records Online At Syracuse	20
PART III.	THE VOCABULARY OF BOOKS - AN ANALYSIS	21
	A. Introduction	21
	B. Records in BOOKS	22
	C. Lists and Searchable Categories	22
	D. Analysis of Terms in BOOKS Data Base	24
	E. Comments on Term Matches in LCT-TI-ST List	27
	F. Comments on Inverted Lists Needed for a Data Base Like BOOKS	29
	G. L.C. Subject Headings in BOOKS An In-Depth Vocabulary Analysis by Pauline Atherton and Karen Markey	30
PART IV.	THE USE OF BOOKS	37
	A. Introduction	37
	B. Using BOOKS	38
	C. Reports About Searching BOOKS	43

		Page
	D. Testing the Value of SUBJECT DESCRIPTIONS for Online Searching by Pauline Atherton, George P. D'Elia, and B.K.L. Genova	47
PART V.	EXPLORATORY STUDIES IN SUBJECT DESCRIPTION	67
	A. In-Depth Subject Cataloging Approach at BRODART, Inc.	67
	B. PRECIS	67
	C. Book Publishers - Improving Subject Access to Books	77
	D. Subject Descriptions in Abstracting and Indexing Services	80
	E. Library Networks - Improving Subject Access to Books	83
PART VI.	WHERE DO WE GO FROM HERE?	84
	A. What was Learned from the Subject Access Project	84
	B. What Should Happen Next to Improve Subject Access?	86
	C. Final Remarks	87
APPENDIX I.	Bibliography and Mediagraphy of the Subject Access Project	90
APPENDIX II.	The BOOKS Data Base - Examples of Records from Humanities and Social Sciences	91
APPENDIX III.	List of all L.C. Subject Headings in BOOKS Data Base (With Number of Postings)	110
APPENDIX IV.A	BOOKS ARE FOR USE A User Guide for the BOOKS File on SDC/ORBIT	127
APPENDIX IV.B	Ninety Queries Used in Controlled MARC & BOOKS Searches	141
APPENDIX IV.C	Raw Data for Ninety Searches	145
APPENDIX IV.D	Interesting Queries	148

LIST OF TABLES

		Page
II.1.	Selection of Social Sciences and Humanities Fields in BOOKS	12
II.2.	Pages in Index (Ranked by highest # pages in an index)	14
II.3.	Costs for Steps in Process of Selection and Input	16
II.4.	Subject Fields Ranked by Number of Selections, Input Costs, Characters Added, etc.	18
II.5.	Average Number of Selections and Average Time Per Case for Each Class and Type (Table of Contents or Index)	19
III.1.	Comparison of Terms in TI-LCT-ST Portions of BOOKS Records	25
III.2.	Analysis of CT, IT Terms and Phrases in BOOKS	25
	a) Terms: Frequency of Occurrence in SAP Portion of BOOKS (CT and IT)	25
	b) Phrases: Frequency of Occurrence in SAP Portion of BOOKS (CT and IT Categories)	25
III.3.	Excerpts from SP List	26
	a) Display of SAP Phrases with Neighboring Phrases	26
	b) Display of Multi-Word SP Phrases	27
III.4.	LCT-TI-ST Matches (Portions of List)	28
III.5.	LCH Headings Used 10 or More Times in BOOKS (N = 1,979 Books)	31
III.6.	a) Analysis of L.C. Subject Headings in BOOKS	34
	b) Subheadings in L.C. Subject Headings in BOOKS	34
IV.1.	BOOKS Exhaustive Search on Citizen Participation in Urban Planning	46
IV.2.	Analysis of Variance Table for a SPF-2·2 Design with Repeated Measures on Factor B	58
IV.3.	SPF-2·2 Design with Repeated Measures for Testing Differences Between Social Sciences and Humanities Searches Using Marc and BOOKS. Analysis of Variance Table	60

		Page
IV.4.	SPF-2·2 Design with Repeated Measures for Testing Differences Between Social Sciences and Humanities Searches Using MARC and BOOKS. Analysis of Variance Table	61
IV.5.	SPF-2·2 Design with Repeated Measures for Testing Differences Between Social Sciences and Humanities Queries Using MARC and BOOKS Indexing Systems. Analysis of Variance Table	62
IV.6.	Number of Matches in Output	65
A.IV.1.	Data from Three Experiments for Social Sciences Searches (N = 45)	145
A.IV.2.	Data from Three Experiments for Humanities Searches (N = 45)	146
A.IV.3.	Estimated RECALL for MARC & BOOKS Searches	147

LIST OF FIGURES

		Page
II.1.	Flow Chart of the Selection Process	6
II.2.	A Book's Contents and Index Marked for Selection	7
II.3.	Illustration of SOS Input	9
II.4.	Sample of BOOKS Data Base Records on SDC/ORBIT Produced Following SAP Selection Rules	10
III.1.	Source of Searchable Terms and Phrases in BOOKS. Category and List Relationships	22
III.2	Data Base Analysis - BOOKS File -- Subject Headings	33
IV.1.	Use of BOOKS -- Search Sample #1	40
IV.2.	Use of BOOKS -- Search Sample #2	41
IV.3.	Schematic Representation of the Partitioning of the Total Variation in a SPF-2·2 Design with Repeated Measures on Factor B	52
IV.4.	General Model for a SPF-p·q Design with Repeated Measures on Factor B	53
IV.5.	Form 1. Subject Access Project - Search Log	56
IV.6.	Form 2. Relevancy Assessment Worksheet	57
V.1.	MARC, BOOKS and PRECIS Comparison	69
V.2.	MARC, BOOKS, & PRECIS - Book in Public Finance	70
V.3.	MARC, BOOKS, & PRECIS - Book in Urban Planning	71
V.4.	MARC, BOOKS, & PRECIS - Book in Ethics	71
V.5.	MARC, BOOKS, & PRECIS - Book in Drama	72
V.6.	BOOKS and PRECIS Records for Book in LC Class HT	74
V.7.	BOOKS and PRECIS Records for Book in LC Class HJ	75
V.8.	BOOKS and PRECIS Records for Book in LC Class NK	76
V.9.	BOOKS and PRECIS Records for Book in LC Class PN	76
V.10.	Sample Record of BOOKS Entry	79

		Page
V.11.	Sample Records for Psychology Books in BOOKS and Psychological Abstracts	81
A.II.1.	Portion of BOOKS Tape in Print Image Format	93
A.IV.1.	Sample of Offline Output for MARC Search	155
A.IV.2.	Sample of Offline Output for BOOKS Search	172

PART I. REVIEW OF PROJECT PLAN AND OBJECTIVES

> "Our general habits of thought can easily blind us to the need for altering our ways of thinking in accordance with the nature of the material under investigation as we penetrate into new domains."
>
> -- David Bohm
>
> British Journal Phil. Sci., 12(August, 1961), pp. 103-116.

To put this final report in a proper setting, we will quote from the original research proposal to the Council on Library Resources, written in the Fall of 1975. The project was funded in late June, 1976 and continued with CLR support until February, 1978. A special grant from the Syracuse University Research Fund will continue the Subject Access Project through June, 1978, while further support is being sought to help answer the question: "Where Do We Go From Here?" (see Part VI of this report).

The project plan as written in late 1975 read as follows:

A. Specific Aims

This project could result in the redesign of both the data base and retrieval systems used in libraries to search by subject and retrieve information about the content of their book collections. It is proposed to sample the holdings of two* large libraries with machine-readable catalogs who are planning to provide online searching of their catalog in 1976, to augment their MARC-like records for this sample with subject descriptions taken from either the table of contents and/or subject indexes in these books, to test the searching of this new data base on a sophisticated retrieval system at Syracuse University,** and to contrast this retrieval method with the more conventional methods employed by these libraries at the present time.

B. Significance of this Project

The nature of the catalog in libraries is undergoing some significant changes because of the advent of MARC, ISBD, and online retrieval systems for computer-based literature searching. Existing methods and services for subject searching in libraries are rapidly being modified by the potential of these innovations and the availability of data bases representing the machine-readable versions of printed abstracting and indexing services (e.g., Psychological Abstracts, COMPENDEX

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* This was later changed to one library

** This was later changed to the System Development Corporation ORBIT Retrieval Service.

(Engineering Index), etc.). Reference librarians in academic libraries are now negotiating search requests and developing search strategies which include "free text searching" of the exact words in the formulation of the query and matching these with words found in the abstract, title, and indexing record for journal articles, conference papers, etc. Unfortunately the MARC records, produced by the Library of Congress and elsewhere, do not contain such "free text" as abstracts or annotations for the books they catalog. Also unfortunately, the existing data bases developed by abstracting and indexing services do not cover books to any large extent and very few bibliographic data bases in machine-readable form exist in the humanities or social science fields. In the MARC records covering the book literature of these fields, only the main entry, the book's title, and the few Library of Congress subject added entries are available for searching in the "free text" mode at the present time. These data elements are not too descriptive of the specific information in a book on macro-economics, adult education, or World War II, for example.

It is proposed to augment the subject description for books in these and other fields, utilizing a set of selection rules for choosing words and phrases found within the books themselves. Free text of this sort could be satisfactory for searching online and might be an economical way to augment the MARC records already in the files of such networks as OCLC, UTLAS, LIBCON, etc. (A field exists in the MARC format at the present time which could be used for this input.)

If various sets of selection rules are tested by this project, perhaps the library world could adopt the most useful set as a standard and plan a cooperative input project similar to the CONSER project which would augment the present files of MARC records in a systematic way.

If the results of this project's demonstration of the new features of our experimental retrieval system are successful, present operational retrieval systems may want to add these features in order to be more responsive to free text searching styles, and book indexers and publishers may wish to take greater care in preparing this "free text."

The data collected will measure the availability of the resources available (does a library collection contain a suitable amount of books with indexes and usable tables of contents); *the cost of inputting, storing and searching these augmented records; and the benefits derived in searching such records.* (Italics added.)

We proceeded to implement this plan when funds were made available by CLR.

In the summer of 1976 we did as planned, quoting again from the original proposal:

Phase I: Sample Design and Collection Procedure (5 months)

1. Develop sampling plan for selecting sample of books from the University of Toronto data base.

   sample size 100 books/category x 24 subject categories* = 2,400
   (1,200 chosen in each library with check for duplicates).

2. Implement computer program to:

   1) draw the sample according to procedure developed
   2) produce tape with a catalog record for each item in the sample from the machine-readable file in each library

*This was later changed to 10 categories in order to have more books in each category.

3) print out call number and bibliographic information for each item on a separate form, assign each an identification number (1-2,400).

3. Train and supervise staff for data collection.

Procedure to be followed for each item:

1) take the volume from the stacks; Xerox title page, table of contents, and subject index (if the book has one)
2) staple Xeroxed pages to the computer-printed form for that book
3) reshelve books

Possible delays due to: books in circulation or books missing.

Any book not available must either be located in a library accessible to the investigators or a Xeroxed copy of title page, table of contents and index can be requested by interlibrary loan.

4. Analysis of data.

Investigators collect all forms for items and determine:

1) percent of books by category with subject index
2) variation in: number of pages/subject index; estimate number of entries/subject index; publisher's practice in indexing books*

Phase II: Data Base Augmentation Program (8 months - some overlap with Phase I)

1. Select subset of sample collected in Phase I.

Possibilities: a. select x items from each category,
or
b. select categories suggested by reference librarians as being those in which book material is especially valuable

(will consider only those items which have indexes)**

2. Consider impact of variations of selection rules.

3. Edit indexes of items to be input according to the "optimal" selection rules.

1) On Xeroxed index pages circle items to be keyed.
2) Prepare table of chapter numbers and pages they include.

4. Train keypunch or terminal operators to enter data from table of contents and marked index pages according to a specified format with associated chapter numbers.

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* Note: See separate paper by Gratch, Settel and Atherton (in bibliography with this report) as this will not be reported in detail in this report.

** Later changed to indexes and tables of contents.

5. Develop computer programs which can store the three records for each item.
   1) catalog record from Toronto with main entry, title, class number, and LC subject entries as access points
   2) table of contents
   3) subject index entries

6. Development computer programs to build a dictionary for this file.

7. Use computer-based search routines for:
   a) conventional inverted file and Boolean search of MARC-like records. (If OCLC/Basis is available, some searches of that file can be compared with our augmented file searches if records are in OCLC files.)
   b) alternative SMART-like system for searching "free text" augmented records (already available at Syracuse University).

Note: Data from this phase will include:

1) Editing time for each item
2) Keying time for each item
3) Number of characters for table of contents records and subject index records (estimate of number of access points added)

These permit estimation of entry cost and storage costs if these augmented subject representations were to be used on a continuing basis in operational systems.

Phase III: Testing and Retrieval (5 months - some overlap with Phase II)

1. Solicit queries from reference librarians and library users at University of Toronto, Cornell University and Syracuse University.

2. Run searches against:
   1) MARC-like records
   2) table of contents file
   3) subject index file

3. Obtain evaluation of retrieval results by requesters.

Note: Data analysis from this phase will include:
Comparison of the number of items retrieved using different subject representations and search methods consider relevance evaluations by requesters, processing time, and results.

Auxiliary Activities (if time and resources permit; otherwise, a possible follow-up project)

1. Investigate availability of machine-readable subject indexes from publishers who utilize computer composition in book production. We could even experiment with machine selection of subject terms if some indexes could be made available to us in the course of the study.

2. Data base survey - determine available data bases and their current coverage and treatment of book materials (e.g., PRECIS of BNB, Psychological Abstracts, CAIN, etc.).

PART II. AUGMENTING CATALOG RECORDS SELECTION AND INPUT -- PROCEDURES AND COSTS

A. Introduction

The Subject Access Project published in Summer, 1977 a manual of procedures for augmenting subject descriptions in library catalogs. This manual is entitled Subject Description of Books.* Edited by Barbara Settel, who managed the input procedures of the project, it carefully documents the procedures for determining the usability for subject description of contents page entries and index entries. It contains examples of various forms of contents pages and indexes so that the selection decisions would be consistent across selectors and across all fields of knowledge and all books.

Complimentary copies were sent to over fifty library journal editors, library educators, and the national libraries of Canada and U.S. To date only a very few reviews of the publication have reached us. The most comprehensive review thus far came to us in the form of a class report by Steven Hallberg, U. of Washington, School of Librarianship.

This manual not only documents the procedures and selection rules we followed, but in the appendices it contains the flowchart of the selection process, computer input, and our time and cost figures.

For ease of reference, some pages of the manual and its appendices are repeated in this report:

1) The flow chart of the selection process.

2) The contents and index of one book marked for selection.

3) The SAP computer input for the book.

4) The BOOKS record for this book, processed by SDC/ORBIT where portions of the machine-readable catalog record from U. of Toronto and the SAP input were merged.

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*Although our project is over, this manual is still available for careful scrutiny and possible future use by others. Order from Publications Office, Syracuse University, School of Information Studies, 113 Euclid Avenue, Syracuse, NY 13210. $5.00.

Figure II.1

FLOW CHART OF THE SELECTION PROCESS

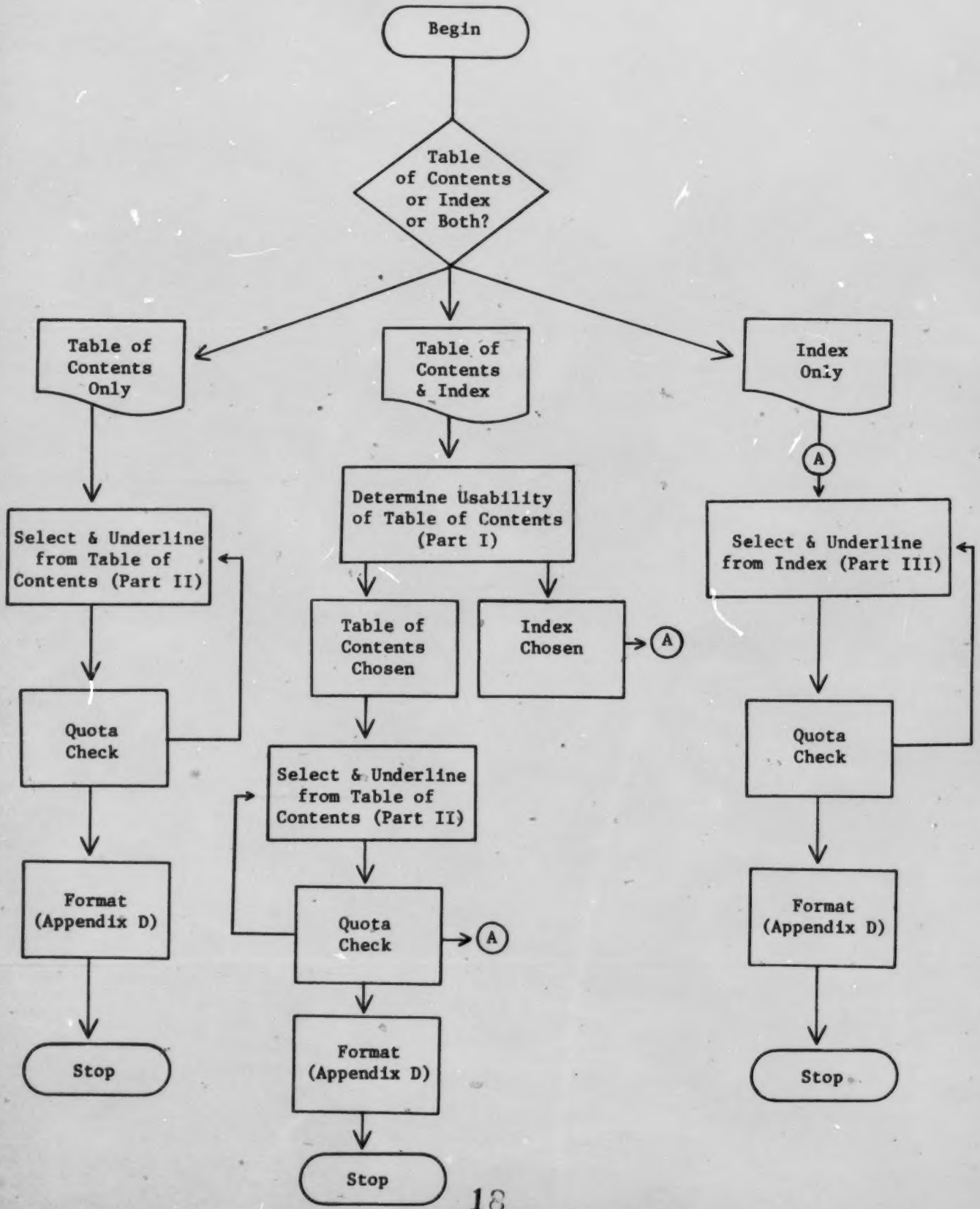


Figure II.2. A Book's Contents and Index Marked for Selection

Perception: Facts and Theories

Perception

BF (Psychology)

Quota = 17

Selections = 23

Contents

	LIST OF FIGURES	vii
	INTRODUCTION	1
	PART ONE A CRITIQUE OF COMMON-SENSE REALISM	
1	An Introduction to Phenomenology and to 'the Sense-datum Language'	7
2	Phenomenological Arguments against Realism	24
3	Science-inspired Arguments against Realism	40
	PART TWO A DEFENCE OF COMMON-SENSE REALISM	
4	A Critical Survey of Alternative Theories	59
5	A Critique of the Phenomenological Arguments	77
6	A Critique of the Science-inspired Arguments	90
7	A Critique of 'the' Sense-datum Language	100
	PART THREE CAN REALISM BE RECONCILED WITH THE PHENOMENOLOGICAL FACTS?	
8	Some Preliminary Adjudication	119
9	Some Facts about Colour Vision and their Theoretical Implications	132
10	Some Recent Attempts to Sweep the Problems under the Carpet	148
11	A Tentative Verdict	164
	NUMBERED REFERENCES	181
	RECOMMENDED READING FOR STUDENTS	187
	INDEX	190

19

Index

'appears', different uses of, 16–23, 155
Armstrong, D. M., 162–3
Austin, J. L., 8, 11, 32–3, 79–80, 82, 87, 100, 112, 113, 114, 150, 154–6, 189
Ayer, A. J., 11, 29, 33–6, 68–71, 100–1, 103–8, 112–15, 153, 156, 157–8, 171, 189

Behaviourism, 157–60
Berkeleian Idealism, 62–7, 71, 75–6
Berkeley, 8–9, 42–3, 62–7, 69, 75, 77–8, 122, 146, 161, 165, 168, 171–5, 176, 188
Birney, R. C., 187
Boring, E. G., 187
Boyle, R., 43
Bradley, F. H., 98
Broad, C. D., 91, 106–7, 108, 147, 178–9, 189
Burtt, E. A., 47, 187

Campbell, K., 133
Causal theory of perception, 59
colour adaptation, 7–8, 141–2, 145
colour, aperture, 120, 141
colour-blindness, 92, 123–7, 133
colour circle, 49–50
colour contrast, 140–2, 145
colour mixture, laws of, 49, 135, 137–8
colour names, 133–4, 152, 158–9
colour triangle, 136–8
colour vision, 7–8, 49–56, 85–7, 94–5, 97–8, 120–7, 129–31, 132–47, 158–163, 178–80
colour vision, physiology of, 52–6, 137–8
constancy, colour-, 20, 140, 145
constancy, shape- and size-, 20–1, 107–8, 153

Dalton, J., 98, 125
Dampier-Whetham, W. C. D., 187
Democritus, 48, 125
Descartes, 13, 21, 26–7, 38, 78, 188
distance, visual perception of, 8–10, 174, 175–7
double vision, 2, 8–10, 32–3, 82–3, 154, 176–7

Eddington, A. S., 56, 93–4, 128
Empiricism, 136–7, 163
Evans, R. M., 124–5, 137, 188

Galileo, 42, 43, 47, 48
Generative theory of perception, 91, 129–31, 142, 146–7
Gibson, J. J., 176, 187
Gregory, R. L., 21, 142, 174, 175, 180, 187

hallucination, the argument from, 24–5, 45–7, 61, 73, 87–9, 151
Helmholtz, H. von, 140, 176, 188
Helson, H., 134, 144–6, 151, 162
Hirst, R. J., 32, 44, 45, 91, 187, 189

20

Figure II.2. (cont.)

Hobbes, 157, 165
Hume, 2, 72, 73, 147, 149, 165, 178, 180, 188
hypnotically induced hallucinations, 37–8, 88–9

illusion, the argument from, 26, 29–30, 77
incorrigible statements, the quest for, 13–15, 26–7, 100, 104–8, 111–12, 114–115, 119, 150, 156

Kant, 76
Kepler, 47
Kohler, I., 33

Land, E. G., 142–6, 151, 163
language-learning, the argument from, 94–5, 123–7
Lindsay, A. D., 188
'linguistic phenomenology', 134
linguistic philosophy, 77–8, 93–5, 148–57, 167
Locke, Don, 122, 171, 189
Locke, John, 33, 42–3, 45, 48, 49–51, 60–2, 63–4, 78, 84, 90, 169, 171, 173, 174, 188
Lockley, R. M., 187
"looks", different uses of, 16–23, 107–108, 155

Mace, C. A., 185
MacNabb, D. G. C., 188
MacNichol, E. F., 52, 53
MacRea, A. W., 6
Malcolm, N., 153
Maxwell, J. C., 136
Mill, J. S., 188
Moore, G. E., 13, 14, 22, 88, 135, 153, 154, 189

Naive Realism, 26, 179
Newton, 43, 47, 48–51, 97, 132, 134, 135, 137, 138, 139, 163, 188

Occam's razor, 48, 68, 72
Optical Society of America, 120, 134, 188
Orne, M. T., 38, 88–9

Paradigm Case argument, 93, 123, 127–8
Paul, G., 101
Penfield, W., 46, 93
"perceptually conscious of", author's use of, 12–13
perspectival distortion, the argument from, 28, 81, 129, 174
phantom limb phenomenon, 38–9, 89
Phenomenalism, 67–72, 76, 97–9, 101, 109, 127
"phenomenological", the author's use of, 10–15
phenomenological use of perceptual verbs, 16–23, 107–8, 111–12, 113, 149, 155
phenomenological variability, the argument from, 27–34 esp., 30, 42, 61, 64, 73–4, 77–87, 120–3, 171
Phillips, D. Z., 127
"physical object", author's use of, 24
"physical thing", author's use of, 24
Physicalism, 160–1
Pickford, R. W., 187
Plato, 80
Price, H. H., 28–9, 34, 63, 72, 81, 83, 85, 91, 101–3, 106–7, 109–11, 112, 122, 170, 189
primary qualities, Locke's account, 40–2
author's account, 168–9
proprio-perception, 165, 170–1

Quinton, A. M., 108, 121, 152

"real", different uses of, 79, 80, 87, 120–2, 134–5
"Realist theory of perception", author's use of, 24–6, 75, 180
Reid, T., 188
Representative theory of perception, 59–62, 64, 67, 71, 75, 76, 77, 127, 165, 177–8
Representative theory of vision, 172–80
Rhees, R., 146, 152
Rushton, W. A. H., 52
Russell, B., 13, 24, 44–5, 72, 74, 79, 99, 189
Ryle, G., 95, 150–2, 154, 163, 167

Scientific Realism, Smart's, 97–9, 165
secondary qualities, Locke's account, 40–3
scientists' account, 43, 47–56, 93–5, 144–7
author's account, 84–5, 166–8, 178–80
Selective theory of perception, 91–2, 128–31, 146–7
Senden, M. von, 186
"sense-datum", author's use of, 11–12, 15, 22, 106, 109, 119–20, 175
"sense-datum", its use by others, 13–15, 100–15
Sensibilism, 72–5, 91, 122, 127, 129
shadows, the colours of, 7, 144, 151, 179
Smart, J. J. C., 97, 98, 133, 158–60, 165, 179, 189
Stebbing, L. S., 93–4, 123, 128
stereoscopic vision, 9–10, 110–11, 175–7
Stiles, W. S., 182
Sutcliffe, J. P., 183

Teevan, R. C., 187
Thouless, R. H., 9–10, 17–21, 111–12, 115
Time-lag argument, 44–5, 92

verification principle, C8, 71, 98, 127–128, 156, 157

Wallach, H., 184
Warnock, G. J., 77–9, 82, 85–6, 119–21, 122–3, 152, 155, 158, 159, 189
Wheatstone, C., 9
Williams, D., 160
Wittgenstein, 104, 148–9, 152, 153, 154, 156
Woozley, A. D., 41, 188
Wright, W. D., 184
Wyburn, G. M., 187
Wyszecki, G., 182

Yolton, J. W., 188
Young, T., 52

Figure II.3.

ILLUSTRATION OF SOS INPUT

```
0100    145000661143:
0200    INDEX:  @ APPEARS DIFFERENT USES OF (P. 16-23) @ AYER A J (P. 103-108)
0300    @ BERKELEIAN IDEALISM (P. 63-67) @ BERKELEY (P. 63-67 171-175)
0400    @ COLOUR BLINDNESS (P. 123-127) @ COLOUR VISION (P. 49-56 120-127
0500    132-147 158-163) @ COLOUR VISION PHYSIOLOGY OF (P. 52-56) @ HALLUCINATION
0600    ARGUMENT FROM (P. 34-39) @ INCORRIGIBLE STATEMENTS QUEST FOR (P. 104-108)
0700    @ LAND E G (P. 142-146) @ LANGUAGE LEARNING ARGUMENT FROM (P. 123-127)
0800    @ LINGUISTIC PHILOSOPHY (P. 77-87 148-157) @ LOCKE JOHN (P. 40-44)
0900    @ LOOKS DIFFERENT USES OF (P. 16-23) @ PHENOMENALISM (P. 67-72) @ PHEN
1000    OMENOLOGICAL AUTHORS USE (P. 10-15) @ PHENOMENOLOGICAL USE OF PERCEPTUAL
1100    VERBS (P. 16-23) @ PHENOMENOLOGICAL VARIABILITY ARGUMENT FROM (P. 27-34
1200    77-87) @ REPRESENTATIVE THEORY OF PERCEPTION (P. 59-63) @ REPRESENTATIVE
1300    THEORY OF VISION (P. 172-180) @ SECONDARY QUALITIES SCIENTISTS ACCOUNT
1400    (P. 47-56) @ SENSE DATUM ITS USE BY OTHERS (P. 100-115) @ THOULESS R H
1500    (P. 17-21) #
```

Figure II.4.

SAMPLE OF BOOKS Data Base RECORDS ON SDC/ORBIT, PRODUCED FOLLOWING SAP SELECTION RULES

RSN - 00661143
SNO - 1450
CCN - BF311 M86
ME - Mundle, C. W. K.
TI - Perception: facts and theories.
IM - London, Oxford University Press, 1971
COL - 192p.
PY - 1971
LCH - Perception
IT - APPEARS DIFFERENT USES OF (P. 16-23); AYER A J (P. 103-108)
IT - BERKELEIAN INDEALISM (P. 63-67); BERKELEY (P. 63-67 171-175)
IT - COLOUR BLINDNESS (P. 123-127)
IT - *COLOUR VISION (P. 49-56 120-127 132-147 158- 163)
IT - COLOUR VISION PHYSIOLOGY OF (P. 52-56)
IT - INCORRIGIBLE STATEMENTS THE QUEST FOR (P. 104-108)
IT - LANGUAGE LEARNING THE ARGUMENT FROM (P. 123-127)
IT - *LINGUISTIC PHILOSOPHY (P. 77-87 148-157); LOCKE JOHN (P. 40-44)
IT - LOOKS DIFFERENT USES OF (P. 16-23); PHENOMENALISM (P. 67-72)
IT - PHENOMENOLOGICAL THE AUTHOR'S USE OF (P. 10-15)
IT - PHENOMENOLOGICAL USE OF PERCEPTUAL VERBS (P. 16-23)
IT - *PHENOMENOLOGICAL VARIABILITY THE ARGUMENT FROM (P. 27-34 77-87)
IT - REPRESENTATIVE THEORY OF PERCEPTION (P. 59-63)
IT - REPRESENTATIVE THEORY OF VISION (P. 172-180)
IT - *SECONDARY QUALITIES SCIENTISTS' ACCOUNT (P. 47-56)
IT - *SENSE DATUM ITS USE BY OTHERS (P. 100-115)
IT - THOULESS R H (P. 17-21)

B. Preparation for Input

The illustrations from the selection manual document several steps in the selection and input process which were under our control at Syracuse University:

1) Choice of contents and/or index to begin selection of entries for subject description.

2) Selection and underlining.

3) Quota check.

4) Formating.

5) Keyboarding for machine processing.

6. Proofreading and editing machine-readable record.

Prior to these steps, we had performed the systematic random selection of our sample from eight fields of knowledge, using the classified and coded computer print-outs of the U. of Toronto post-1966 acquisitions. Using these lists we could easily exclude serials and foreign language monographs at the outset. We had decided to sample eight fields equally divided between the humanities and the social sciences and to comprehensively select all the English language monographs representing Post-Confederation Ontario History and Urban Planning (F5520-5547 and HT166-177, respectively were the L.C. classification number ranges for these two fields).

The total estimated population of the English language non-serial titles in the fields we selected was 16,910 with 8,601 (or 51%) in the Humanities, and 8,310 (or 49%) in the Social Sciences. The sample we drew was 1,592 items from the eight fields and 832 items from the other two fields for a grand total of 2,415 items.

We considered this an over-sample expecting to lose some items to attrition because they might be deleted or duplicates or mistaken as monographs, or be unobtainable at Toronto or other libraries or they might have neither a contents page nor an index. By the time the BOOKS data base was processed we had 1,979 items (1,353 items from the eight fields we sampled and 626 items from the two fields we tried to cover comprehensively) an attrition of 436 items (18%).

These losses are shown in Table II.1. The losses were fairly evenly divided

Table II.1. Selection of Social Sciences and Humanities Fields in BOOKS

(N = 16,910; n = 2,415)

	L.C. Class Code	Field of Knowledge (1) Humanities 1-5 (2) Social Sciences 6-10	Original Sample	No T/C or Index	Attrition Loss	Input Processing Loss	% Loss	Items in BOOKS Data Base
1)	NB,NE,NK	Arts (Sculpture, Pottery Engraving, etc.)	201	31	-	16	= 38%	124
2)	PN	Drama	320	31	24	9	= 20%	256
3)	DE,DF,DG	Graeco-Roman History	139	4	-	5	= .01%	130
4)	F	Post Confederation Ontario History	300	89	-	32	= 40%	179
5)	BC,BH,BJ	Philosophy	152	9	-	4	= 9%	139
6)	GN	Anthropology	144	6	4	3	= 9%	131
7)	BF	Psychology	346	23	-	4	= 8%	319
8)	HJ	Public Finance	136	18	2	2	= 16%	114
9)	HM	Sociology	154	7	1	6	= 9%	140
10)	HT	Urban Planning	523	35	34	7	= 15%	447
		TOTALS	2,415	253	95	88		1,979
				(10%)	(4%)	(4%)	(18%)	

across all fields, except for Arts and the Post-Confederation Ontario History. In the latter case 89 items contained no table of contents or index and 32 items were unusable for our subject description process. In the Arts the number unobtainable was very high (30) as well as the number without contents page or index (31). (This prompts us to say that the procedures developed here may have more difficulty in application in the Humanities than in the Social Sciences, but all the evidence is not in as yet and the situation could change drastically in the future if publishers were persuaded to provide usable contents pages and indexes.)

Once we had chosen the items we would use we had to record the call number on a worksheet, go to the shelf, find the book, photocopy the contents page and index, and analyze what we found. This analysis contributed to the statistics in Table II.1, number of items without contents page or index (10%).

Further analysis uncovered the range of pages and the mean and median numbers of pages in the index (Table II.2). The data differed more for each field in the humanities than in the social sciences.

With this wide range of information to choose from, we felt it imperative to develop a quota system for each field or there would be too much left to chance.

C. Quota System for Subject Description Selections and Projected File Size

Even with hindsight we can not answer the question "What is a best or adequate size of a subject description to augment the traditional library catalog entry?" But we knew that the entire contents page and/or index of a book was too much! We undertook to find a "happy medium" between the extremes of all or none. The only guidance we found in the literature was the work of Resnikoff and Dolby who thought that a 30:1 reduction of levels of description of a book should be built into information systems (Their work was printed in an undated "R&D Press Research Note" distributed sometime in 1976 to advertise their CumIndex.) If the title of a book is level one: thirty characters in length, then level 4 is the average number of characters constituting the book itself (30^4), with the table of contents and the index at levels 2 and 3. They argue that 30:1 "optimizes the effectiveness of searches

Table II.2. Pages in Index

(ranked by highest # pages in an index)

Humanities	Number Without T/C or Index	Range	Pages in Index Median	Mean
(4) Philosophy	9	1-74 p.	4	6.8
(1) Graeco Roman History	4	1-141 p.	8	12.4
(2) Arts	31	2-94 p.	5	7.2
(5) Drama	31	1-35 p.	9	12.2
(3) Post Confederate Ontario History	89	1-89 p.	7	10.9
Social Sciences				
(1) Psychology	23	1-117 p.	6	9.2
(4) Anthropology	6	1-42 p.	7	8.3
(2) Public Finance	18	1-76 p.	7	8.9
(5) Sociology	7	1-27 p.	6	8
(3) Urban Planning	35	1-43 p.	6	7.8

which proceed level by level to the recovery of desired information." We tried in our subject descriptions to create a level 2 + 3 so that online library information searches could proceed level by level from title and subject heading to subject description, to the book itself.

The quota formula for selection of subject description was worked out and is given in full in the manual edited by Settel (see Appendix B of that manual).

As a rule of thumb, given all the reservations we have about computing the quota and having applied it rather arbitrarily, we would recommend an average of 30-35 selections (subject description entries per title). The size of the book and the quality of the contents page and index entries would force the selectors to go above or below this average, but rarely double or half of it.

As the next section on "The Vocabulary of BOOKS" shows, our loose application of this quota resulted in an average of 30 subject description entries. This resulted in an average of 1,200 characters being added to the traditional library catalog entry and, on the average, created 500 access words (not unique) for each item in the BOOKS data base (after some common words were purged).

If someone were to do a complete subject description of a library of 500,000 different items, following our rules, the master file of machine-readable records would probably occupy about five times the present computer storage of the OCLC files. The inverted lists in the online system for such a book collection, (see Section III following), would probably occupy a space equal to that size. This sounds immense until you realize that one IBM Mass Storage device used today can handle 479 billion bytes. The computer storage capabilities of systems like SDC/ORBIT and Lockheed's/DIALOG could handle the aforementioned needs at the present time. As a DIALOG CHRONOLOG issue just reported, storage costs since 1964 have been reduced from $275 per million characters to $10/million.

Our calculations may be grossly inaccurate but the ogre of increased size of file does not appear to be overwhelming. (There are other options also open if

file reduction or record space is a problem, e.g., choosing entries if they cover 10 pages or more instead of 5 pages or more.)

D. Time and Costs of Selection and Input Procedures

As pointed out earlier the manual edited by Settel recorded our experiences performing the selection and input process. Examples of the records produced were shown earlier in this section. The work was spread out over a six month period with help hired as needed, by the hour, at $2.50/hour. Two supervisors were available on a half-time basis.

We used an online text-editing package (SOS) on the DEC-10 computer at Syracuse University for the computer input of the subject descriptions. Two control numbers were used (RSN = U. of Toronto accession number and SNO = SAP number) to merge our records with the UTLAS record. SOS allows for direct entry to disk where input errors, once found in proofreading, could be corrected online (see illustrations of these records in the Introduction of this section).

The resulting file was processed on the IBM 370 at Syracuse University to ready the file for the later merge with the UTLAS records.

At every step of the process we used different persons, some skilled, others newly trained. The average times and costs for each step were as follows:

Table II.3. Costs for Steps in Process of Selection and Input

	Step	No. of Persons (with 2 Supervisors)	Average Time/Item	Personnel Average Cost/Unit	Related Computer Costs
(1)	Selecting	8	10 min.	.50	
(2)	Keying	8	22 min.	1.20	
(3)	Proofreading	2	5 min.	.25	.73/item
(4)	Correcting	3	5 min.	.25	
(5)	Tape Processing and Conversion	2			.69/item
				$2.20	$1.42

Summary: $2.20 + $1.42 = $3.62/item
overhead estimate 1.58
$5.20/item

This figure represents the start-up period, restarts, and steady production times. If the personnel used were paid at a rate above $3.00 per hour, the unit costs for input would have to be raised accordingly. Efficiencies could no doubt have been effected with trained, permanent staff.

Table II.4 gives the data in ranked order for each field of knowledge:

> the average time and costs for the selection and input process,
> the average number of characters generated,
> the average number of selections (i.e., the contents and index entries selected from the book).

The circled letters in Table II.4 show the shifts in ranking if time for selection or average number of selections is used as criteria instead of average number of characters added or costs of input/item (identical ranking). These shifts in ranking are not significantly different except in the case of "average time for selection time" where class F was ranked among the highest. This is probably an artifact of the historical development of the Subject Access Project. Class F was the first set of items selected -- the group of books on which we "cut our teeth!"

The last table in this section (Table II.5) shows the differences in time and number of selections if only index or contents is used, and the statistics if both are used.

E. Creating the BOOKS Data Base on SDC/ORBIT

Once the input and computer processing had been done at Syracuse University, the UTLAS tape (MARC-like records) and SAP tape (subject descriptions for these records) had to be sent to Santa Monica, California for processing and creation of the BOOKS data base on the ORBIT system at System Development Corporation. This was a standard operation for them as they handle many files of bibliographic data bases (from ERIC and NTIS to SSIE and Derwent Patents as well as private data bases); and they make them accessible for online searching via the SDC Search Service.

Table II.4. Subject Fields Ranked by Number of Selections, Input Costs, Characters Added, etc.

	Average Labor Cost for SAP Input of Item (Excluding Selection Costs)		Number of Characters Added				Average Number Selections ***			Average Time for Selection Proc.	
			LC Class	Median	Average	Avg. Pg. in Index	LC Class	No.	Q	LC Class	Min.
(1)	BF	$2.66	BF	(1,624)	1,856	9.2	BF	47	(36)	BF	12
(2)	HM	2.32	HM	(1,308)	1,731	8	HM	45	(57)	HM	12
(3)	HJ	2.05	HJ	(1,149)	1,488	8.3	(GN)	41	(44)	HJ	12
(4)	GN	1.94	GN	(1,196)	1,479	8.9	(HJ)	37	(47)	(F)	12
(5)	BC*	1.87	BC	(885)	1,142	12.4	(DE)	35	(43)	(GN)	12
(6)	DE**	1.23	DE	(1,005)	1,103	6.8	(BC)	28	(48)	(BC)	11
(7)	PN	1.18	PN	(687)	914	12.2	PN	26	(36)	(DE)	9
(8)	HT	1.14	HT	(740)	849	10.9	(F)	22	(40)	HT	7
(9)	F	1.07	F	(511)	750	7.2	(NK)	22	(31)	(PN)	7
(10)	NK	1.04	NK	(550)	660	7.8	(HT)	21	(45)	NK	6
Overall Average		$1.65			1,197 char.	9.2 pages		32.4	(42.7)		10 min.

*Class Code for BC, BH, and BJ

**Class Code for DE, DF, and DG

***Selection is defined as a separate entry from either the contents page or index, followed by a page locator whenever possible.

Note: The selections of subject description entries came from contents pages and/or indexes. The average number of selections and the time per item is a function of this fact and the experience of the selector and possibly the quota set for the item. See the next table, taken from the Settel manual, which documents these differences.

Table II.5. Average Number of Selections and Average Time Per Case for Each Class and Type (Table of Contents or Index)

	Humanities					Social Sciences					Overall Average
	BC	DE	NE	PN	F	BF	GN	HJ	HM	HT	
Total No. of Cases	(140)	(130)	(125)	(259)	(180)	(325)	(132)	(113)	(144)	(451)	1,999
Average Selections (all cases)	28	35	22	26	22	47	41	37	45	21	32.4
Average Time (all cases)	11"	9"	6"	7"	12"	12"	12"	12"	12"	7"	10"
a) Table of Contents Only: No. of Cases	(55)	(22)	(35)	(98)	(104)	(56)	(37)	(37)	(37)	(307)	788
Average Selections	14	15	9	11	11	16	20	16	18	12	13
Average Time	6"	4"	2"	4"	5"	3"	4"	4"	7"	4"	4"
b) Table of Contents & Index Select Table of Contents: No. of Cases	(32)	(53)	(55)	(55)	(13)	(150)	(40)	(36)	(56)	(79)	569
Average Selections	43	33	27	36	37	50	42	41	46	46	42
Average Time	12"	5"	5"	6"	30"	10"	9"	9"	10"	12"	9"
c) Table of Contents & Index Select Index: No of Cases	(53)	(53)	(32)	(97)	(52)	(118)	(54)	(38)	(51)	(63)	611
Average Selections	35	44	29	36	39	58	55	55	64	32	44
Average Time	18"	15"	11"	11"	22"	18"	20"	24"	17"	13"	17"
Index Only: No. of Cases	(0)	(2)	(3)	(9)	(11)	(1)	(1)	(2)	(0)	(2)	31
Average Selections	0	41	12	34	29	51	7	25	0	30	29
Average Time	0	13"	2"	8"	13"	5"	1"	6"	0	6"	9"

a) Very short
b) Experienced selector (compiler of Selection Rules)
c) Inexperienced trainees

The usual arrangement for such a service is to:

a) estimate storage charges

b) estimate front end processing costs (program development to convert file into ORBIT format and file loading)

c) agree on cost/hour for searching online and printing offline citations

d) decide on searchable and printable categories in the records

e) decide on inverted lists of terms to create.

The next section (III) of this report documents the decisions made about searchable fields, and the User Manual in Appendix IV.A. documents the decision about printable and searchable fields.

The specifications for conversion of our tapes to ORBIT format are considered proprietary. Approximate start-up costs for our file were about $1.00 per record with storage costs per month somewhere in the vicinity of $.30/record. The online search was priced at $35 per computer connect hour (plus telecommunication). Off-line printing was set at $.08/citation. Updates would have been a minimal cost (about $.30/record) if we had any updates and the storage costs would not have increased exponentially.

(Note: These prices are given as estimates because our work plan was revised as we worked on this experiment. Cost for handling private data bases on online retrieval systems are competitive as SDC, Lockheed/DIALOG and BRS all offer the service.)

F. Subject Access Project Records Online at Syracuse

In June, 1977 we loaded a portion of the file we were creating on to a home-grown retrieval system called SIRE at Syracuse. Some test searches were run on this system to compare traditional Boolean searching with the innovative features of SIRE. As there were insurmountable problems with computer down-time, we decided not to proceed with these experiments once the BOOKS data base was available on ORBIT. This exploration may continue in 1978.

PART III. THE VOCABULARY OF BOOKS - AN ANALYSIS

A. Introduction

Whenever a data base is created, the first questions you always hear asked are, "How large is the vocabulary?" "How many terms in your inverted file, your thesaurus, etc.?"

As we knew that BOOKS was an experimental file, not subject to updating (although that was not ruled out or impossible to do), we chose not to concern ourselves with the usual problems of size of term-vocabulary and costs associated with updating inverted lists. Our first concern was access to the record by whatever means we could devise. We knew that we were including subject terms and phrases from traditional portions of the cataloging record (title and subject headings, call numbers) and we had added new terms and phrases from portions of the book (contents page and index). We didn't know which portion of the record would provide the best subject access. We wanted to be able to test retrieval from different points of access. However, for ease of use, if an online searcher wanted to search for terms anywhere in the record, we wanted it to be possible for him/her to do this easily.

In the portion of the record which we had added for the first time to MARC-like records, we had terms and phrases for most books from two places, the contents page and the index. We wanted to differentiate these sources (CT, IT) for subject access in case we wanted to compare retrieval results or do term comparisons, but again for ease of use in searching these "free text" fields, we wanted a merged list of terms and phrases found in both places (ST, SP).

In addition, thanks to computer processing at System Development Corporation, we were able to "weight" certain terms and phrases in our (SAP) portion of the record for each book. Whenever a ten-page range or larger was shown with the term or phrase from the contents page or index, the computer inserted an asterisk (*) before the term or phrase and marked it for special lists (SWT, SWP).

B. Records in BOOKS

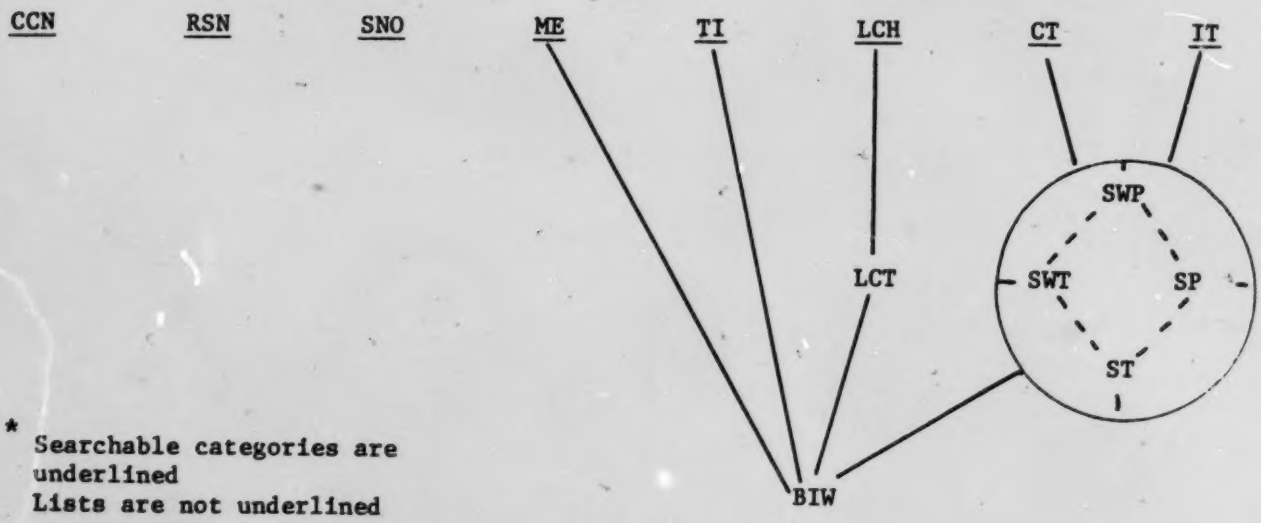
The sample records shown in Appendix II exhibit for every subject field in the file the richness of the potential vocabulary for subject descriptions of books. Please refer to Part II and Appendix II for more information on BOOKS records before reading Part C.

C. Lists and Searchable Categories

All of the above are the reasons for our decisions to create several inverted lists for the BOOKS data base. Normally one would never create such a vast number, redundant beyond your wildest imagination. But remember, BOOKS is an experimental data base which could, through tests and trials, give us some definitive answers on which lists are needed, which unnecessary, which improve precision or recall, effect time savings, etc.

The directly searchable categories (or fields) of the BOOKS record and the lists wherein the terms and phrases in those categories appear is shown in the following schematic diagram.

Figure III.1. Source of Searchable Terms and Phrases in BOOKS. Category and List Relationships



* Searchable categories are underlined
Lists are not underlined

Online, the searcher could access any searchable category (field) much like she/he would at the card catalog, by remembering the first term in the field. An example of this, to simulate searching L.C. subject headings, would begin in SDC/ORBIT with a NEIGHBOR command, with the designation (LCH) after the term or phrase:

"NBR MORAL: (LCH)
The computer responds:

POSTINGS	TERM
1	MONETARY POLICY - PAKISTAN
2	MOORE, HENRY SPENCER, 1898-
1	MORAL REARMAMENT
1	MORRIS, DESMOND. THE NAKED APE
1	MOSCA, GAETANO, 1858-1941

UP N OR DOWN N?

The searcher who is looking in an alphabetic list of subject headings can continue to scan above or below this part of the list by answering the question asked. (We have created a printed list of the entire LCH list. It is in Appendix III.)

In SDC/ORBIT if the searcher wanted to search by an exact L.C. subject heading she/he would have to re-enter the term or phrase in a separate search command. If the exact subject heading is known, the neighbor command could be by-passed.

If the online searcher is not particular about where the sought-after term or phrase appears, a neighbor command without a category indicator after the term can exhibit all the lists at once. For example,

"NBR MORAL
The computer responds:

POSTINGS	TERM
2	MORA (ST)
1	*MORA (SWT)
96	MORAL (BIW)
46	MORAL (CT)
49	MORAL (IT)

UP N OR DOWN N?

At a glance the searcher can see that the term comes from several categories. (In this particular case) a scan further down the list would exhibit additional categories where the term appears. If the searcher does not care to see where

the term appears, she/he can bypass the display by inserting ALL before any term used and the term is searched in the (BIW) list which is the merged list of terms from all parts of the BOOKS record.

For purposes of this vocabulary study, we counted the number of entries in each of these lists and performed some comparative studies.

D. Analysis of Terms in BOOKS Data Base

The sum of all the lists created for subject access (BIW, LCT, TI, CT, IT, LCH, ST, SWT, SWP, SP) has been put on a separate tape which is 14,183,120 bytes long. This is not the true size of the expected inverted file made for a data base like BOOKS. Assuming that half of it is a merged list of the other half (BIW = sum of all other fields) and therefore the list is twice its normal size, the inverted list for all subject terms for these 1,979 books would be less than 7 million bytes long. Also knowing that CT and IT were merged in ST and lists for SP, SWP, and SWT were made from them (see previous diagram), it seems safe to say that the truer picture of the size of the BOOKS subject vocabulary is closer to 6,000,000 bytes or 1,000,000 "words," an average of 500 words/book. (The average number of words in the inverted lists for ERIC records or Psychological Abstracts records, if words in abstracts are used, is close to that figure; ASI and CIS data bases are considerably larger.) These words are generated from a record which is, on the average, 1,200 characters longer than the existing MARC records.

We were most interested in the CT and IT categories and in the SP list because these were the portions of the BOOKS record that would tell us the most about what we had done to improve or exacerbate subject access.

For this study we compared terms in these categories with the terms in the TI and LCT lists.

Time did not permit a careful study of the SWT and SWP lists before the writing of this final report, but we intend to pursue our studies further.

Table III.1. Comparison of Terms in TI-LCT-ST Portions of BOOKS Records†

	TI	LCT	ST
Total # Terms	4,848	1,850	27,046*
# Terms Unique	935	166	22,758
# Terms in 3 Lists (TI-LCT-ST)	(1,215)	(1,215)	(1,215)
# Terms Matched by Two:			
a) TI-LCT	(47)	(47)	
b) TI-ST	(2,651)		(2,651)
c) LCT-ST		(422)	(422)

* 14,441 of these 27,046 ST terms appeared more than once.

Table III.2. Analysis of CT, IT Terms and Phrases in BOOKS†

a) Terms: Frequency of Occurrence in SAP Portion of BOOKS (CT and IT)

	Total No. Terms	(1) Once	(2) 2-5 Times	(3) 6-10 Times	(4) 11+ Times	# Postings Not Incl. (1)
CT	27,046	12,605	4,800	991	1,140	55,446
IT			5,193	1,167	1,150	54,103

Average # Postings: 28+/book (CT); 27+/book (IT)

b) Phrases:* Frequency of Occurrence in SAP Portion of BOOKS (CT and IT Categories)

(for phrases occurring more than once)

Total Number of Phrases: 3,827

Occurrence:

2-5 Times	3,357
6-10 Times	320
11+ Times	150

Total Number of Postings: 13,687 or 7 phrases/book (excluding single postings)

---

* Phrases are defined by the Subject Access Project as the "main heading" is defined by catalogers -- a "phrase" is a term or group of terms that form the heading before the page locator in an index or on a contents page.

† Our special thanks to Bruce Hillsberg and Philip Beauchamp at the Syracuse University Computing Center for the programming which developed these listings.

Table III.3. Excerpts from SP List

a) Display of SAP Phrases with Neighboring Phrases

(postings 11+ times)	Other Neighboring Phrases
	2 Act
12 Acting	.
18 Africa	.
39 Agriculture	.
22 Anxiety	4 Actor
16 Architecture	9 Actors
33 Aristotle	3 Actors and Acting
20 Art	3 Actors and Actresses
26 Athens	
14 Christianity	9 Church
17 Churches	7 Church of England
	2 Churches and Ministers
	2 Churches of the Pioneers
14 Emotion	5 Emotional
	3 Emotional Development
	2 Emotional Maturity
	2 Emotionality
15 Emotions	2 Emotivism
.	
.	
.	
44 Family	3 Family and
	7 Family Compact
	2 Family Disorganization
	2 Family Planning
	3 Family Relationships
	2 Family Romances
16 Group	2 Group Allegiance
	2 Group and Individual
	3 Group Dynamics
	2 Group Psychology
	2 Group Size
	2 Group Theatre
12 Groups	2 Groups and Associations
	3 House
	5 Household
	7 Houses
65 Housing	
	2 Housing Act of 1949
	2 Housing and Home Finance Agency
	2 Housing and Redevelopment
	2 Housing and Urban Renewal
	3 Housing Conditions
	2 Housing Market
	2 Housing Problem

b) Display of Multi-Word SP Phrases

(postings 10+)

10 Decision Making
13 Development of
11 Great Britain
11 History of
14 Land Use
10 Nervous System
16 New Towns
13 New York City
11 Social Change
10 Social Organization
10 Social Stratification
14 Types of
13 United States
20 Urban Renewal
10 War of 1812

E. Comments on Term Matches in LCT-TI-ST List

The following table exhibits a point which was brought home during the retrieval tests. The ST list has more postings and thereby can effectively retrieve more books than either the title words or the terms in the LCH category.

Table III.4. LCT-TI-ST Matches (Portions of List)

(Note: These portions were selected from the list of 1,215 matches to exhibit the number of postings by category)

Term	# Pstg TI	# Pstg LCT	# Pstg ST
Acting	4	12	45
Actresses	2	6	7
Addresses	2	123	6
Administration	7	2	89
Adolescence	6	10	35
Aesthetics	7	19	22
Agriculture	1	2	70
American	35	19	131
Antiquities	2	11	7
Archaeology	3	3	14
Architecture	7	7	41
Assessment	3	3	50
Athens	9	6	54
Behaviorism	2	3	16
Bronzes	2	2	4
Budgeting	4	2	17
Calcutta	2	2	8
Capital	14	3	80
Cities	33	367	93
Civilization	9	37	26
Computer	4	2	33
Conflict	10	3	105
Conversion	2	2	16
Determinism	2	5	27
Drama	22	47	61
Excavations	2	3	7
Films	4	6	19
Leadership	5	3	36
Magic	6	2	37
Melodrama	2	2	9
Neighborhood	4	2	29
Ontario	27	64	38
Participation	6	8	56
Philosophy	16	13	71
Pottery	6	8	29
Property	4	5	87
River	2	5	52
Rorschach	3	3	25
Sculpture	21	15	27
Sociology	34	38	74
Stress	2	2	23
Technique	8	4	48
Thucydides	2	3	15
Urbanization	6	19	31
War	13	7	161
Welland	2	3	5

F. Comments on Inverted Lists Needed for a Data Base Like BOOKS

The need for separate inverted lists for LCH and LCT are self-evident. For the purposes of vocabulary control alone, these are valuable lists (see Appendix III). With postings for each term and heading, subject catalogers can quickly see when a term is over-loaded or little used. By scanning the lists, typos like "Civilization - Greek" and Civilization, Greek" can be spotted quickly (see Appendix III). We have included a special paper on some analyses we have performed on the subject headings in the BOOKS file (see Section IIIG. and Appendix III).

The need for a separate inverted list for TI (title) is not so self-evident, nor is the need for separate lists of CT and IT, SP or ST. SWT however, does appear to be a needed list in order to help the searcher differentiate output, culling out those books with the greater number of pages.

For ease of searching the BIW list is useful.

If we were re-designing the way the BOOKS data base could be searched, we would continue to make the same fields searchable:

RSN	Accession Number
SNO	SAP Number
CCN	Call Number
ME	Main Entry
TI	Title
PY	Publication Year
LCH	Subject Heading(s)
CT	Contents Terms
IT	Index Terms

But we would not build all the inverted lists. We think you could limit the number to:

BIW	Merged List
ST	SAP Terms (CT, IT)
SWT	SAP Weighted Terms
LCT	Subject Heading Terms

This would not appreciably reduce the average number of words in inverted lists (approximately 500/book), but it would simplify updating, at least as SDC/ORBIT does it.

G. L.C. Subject Headings in BOOKS

An In-Depth Vocabulary Analysis by Pauline Atherton and Karen Markey

The vocabulary provided in the LCH field of the BOOKS record deserves special attention because it is the present subject access point for library catalog subject searching. With the aid of some computer manipulation we were able to determine the following statistics about this field in the BOOKS data base. The full list of L.C. headings is included in Appendix III.

BOOKS Data Base Size:	1,979 records
% of Records Without LCH Field:	30%*
Total No. of LCH Postings:	2,916
Total No. of Different Headings:**	1,840 (1,089)
Headings Used More than Twice:	148
Headings Used 10 or More Times:	19
Single Terms Generated From LCH Field:	1,850
No. Unique in LCH Field:	166
No. Match With Title (TI) Words:	47
No. Match With Contents/Index (ST) Words:	422
No. Match With Both TI and ST:	1,215

The following table includes the headings used more than 10 times in the BOOKS data base. These headings look very much like several of the names of the ten classes of the L.C. Classification schedule from which our samples were drawn! The interesting fact to observe here is that some of the class names are not here, e.g., Public Finance, Sculpture and Anthropology. This may or may not serve as a sign that the LCSH is a discriminating vocabulary for some fields, but not for others, but this finding certainly stimulated our interest and we decided to explore it further, class by class. That report follows.

---

* This appeared to be a high number of books without subject headings. Upon inquiry we were able to determine that the University of Toronto did not include subject headings in their machine-readable record for books published before 1966. The BOOKS data base contains about 600 records with publication dates prior to 1966, some of these do not have subject headings. We understand that there is a special project at Toronto to correct this situation as these records are in the COM catalog.

**"Aesthetics" and "Aesthetics - Collected Works" would be counted as different headings. The count, if different subheadings are ignored would be 1,089.

Table III.5. LCH Headings Used 10 or More Times in BOOKS (N = 1,979 Books)

10 Adolescence

25 Child Study

19 Cities and Towns - Planning

(Cities and Towns - Planning, with different tertiary subdivisions - 391)

14 Civilization, Greek

14 Drama - History and Criticism

11 Electronic Data Processing - City...

30 Ethics

12 Greece - History

(Greece - History, with different tertiary subdivisions - 6)

13 Logic

10 Ontario - History

(Ontario - History, with different tertiary subdivisions - 16)

10 Ontario - Politics and Government...

19 Personality

25 Psychoanalysis

32 Psychology

13 Regional Planning

(Regional Planning, with different tertiary subdivisions - 46)

11 Rome - History

(Rome - History, with different tertiary subdivisions - 31)

15 Sociology

10 Theater

14 Urban Renewal - U.S.

(Urban Renewal - U.S., with different tertiary subdivisions - 22)

Following on the work of Dubester, Avram and McClure[1] we decided to analyze in depth the subject headings provided for each of the ten fields in our BOOKS file. We wanted to see if:

(1) the average number and types of traditional subject catalog entries differed from field to field;

[1]Charles R. McClure. "Subject and Added Entries as Access to Information," Journal of Academic Librarianship, 2(March, 1976), 9-14. See also review in Library Resources and Technical Services, 21(Summer, 1977), 265.

(2) which fields had a discriminating vocabulary (i.e., specific headings, rich in different headings to describe specific topics).

We found that the overall average number of subject headings per book in the BOOKS file was 1.3, the same as McClure's findings, but we wondered if this average would vary from field to field.

We knew that online searching of L.C. subject headings would allow for term by term searching of the terms in headings, subheadings and inverted adjectival words, etc. Would the topical subdivisions or geographic and time subdivisions provide additional "subject access" and the discrimination of one book's content from another?

To do this analysis, several students in Professor Atherton's Computer-Based Reference Services class (Summer, 1977) examined all the records for the books in our sample collection, class by class, using the form shown as Figure 1. The summary of their findings appears in the following tables.

Figure III.2. Data Base Analysis - BOOKS File -- Subject Headings

L.C. Class Range: _____ No. of Titles: _____

Analysis of LCSH Field

Summary

(a)

No. of Subject Headings/Title (ignore differences in subheadings)	No. of Titles	%
0		
1		
2		
3		
4 (or more)		

(b) Total number of subject headings used _____ = _____/title average

Detailed Analysis

(1) Most used LCSH headings and subdivision (cite top 2 or 3)
(Indicate use of geographic or form subdivisions if very frequently used.)

#	Heading
1.	
2.	
3.	

(2) Other main headings (in order of frequency -- if used more than twice).
(Include geopolitical or personal names)

(Attach)

(3) Least frequently used headings (appeared once or twice)
Delete (but give examples in note) geopolitical or personal names

(Attach -- type as 3-column list)

(4) Topical subdivisions which occurred most often

(5) Type of subdivisions

	#	% (N =)
Form		
Geographic		
Time Period		

Table III.6(a). Analysis of L.C. Subject Headings in BOOKS

L.C. Class Code	# of Books	Total # of Headings	Average # Headings/Book	% of Books With 2 or More Headings	% of Books With the Same Headings	# of Main Headings Used More Than Twice (Ignoring subheadings)
BC BH BJ	141	205	1.45	36	27.6	14
BF	333	516	1.55	42	16.5	42
DE DF DG	133	181	1.36	40	45.9	5
F	193	235	1.21	62	17	16
GN	135	141	1.04	30	15	9
HJ	114	122	1.07	33	12	11
HM	149	122	.82	31	24	12
HT	472	758	1.60	51	90	23
NB NE NK	150	144	.96	28	23	4
PN	275	320	1.16	60	36	12
TOTAL	2095	2744*	1.31	45		148
			Range: .82-1.55	Range: 28-62%	Range: 12-90%	

*May be duplicates across classes

Table III.6(b). Subheadings in L.C. Subject Headings in BOOKS

L.C. Class Code	# Books	Topical (More than Once)	# Form (Incl. History)	# Geographic	# Period
BC-BH-BJ	141	(3)	57	5	3
BF	333	(3)	62	4	1
DE-DF-DG	133	(4)	56	10	15
F	193	(7)	137	20	1
GN	135	(1)	23	25	0
HJ	114	(3)	23	81	3
HM	149	(5)	95	3	1
HT	472	(13)	207	484	69
NB-NE-NK	150	(0)	31	70	2
PN	275	(5)	169	75	16

From the first part of the table you can see that the average number of headings per book does differ from subject field to subject field, the lowest being HM (Sociology) at .82 and the highest being BF (Psychology) at 1.55.

The per cent of books with two or more headings varies from field to field too, from a low of 28% in NB-NE-NK (portions of Fine Arts) to 60% or 62% in PN (Drama) and F (Ontario History), respectively. It is interesting to note here that most of the F collection at the University of Toronto Library was cataloged originally by the staff there rather than at the Library of Congress because so much of the collection is unique. Such local cataloging may have resulted in the higher number of subject headings. There is no like explanation for Class N.

The proportion of books in a given class range with the same heading is an indication that a search by the LCH will or will not differentiate the subject of one book from another. This statistic, in rank order, by percent of books with the same main heading, shows how difficult, if not impossible, discrimination would be.

Class	# Books	% Books With Same Heading	# Main Headings Used More Than Twice	Heading
HT 166-177	472	90	23	Cities and Towns
DE-DF-DG	133	45.9	5	Rome
PN 1560-3300	275	36	12	Drama
BC-BH-BJ	141	27.6	14	Ethics
HM 1-221	149	24	12	Sociology
NB-NE-NK	150	23	4	Sculpture
F 5520-5547	193	17	16	Ontario
BF 1-990	333	16.5	42	Psychology
GN 1-696	135	15	9	Ethnology
HJ	114	12	11	Finance, Public

Every other book in the BOOKS collection classified under DE-DF-DG has the subject heading Rome; 9 out of 10 books classified HT 166-177 have the same heading: Cities and Towns - Planning; one out of 4 classified HM 1-221 had the heading Sociology. In these areas the reader could do just as well (or better) at the book

shelf than they could in the library's catalog. This no doubt accounts for the low retrieval of relevant books when someone has a specific query (see Part IV of this report).

Approximately 10% of the main headings were used more than twice (148/1,089). This percentage varies from field to field.

Topical, form, geographic and period subheadings were used extensively. The second half of the table in this section shows the number of different subheadings found for each class. Form subheadings (e.g., History; Bibliography; Addresses, essays, lectures, etc.) were the most frequent. Geographic subheadings were extensively used in Class HT, HJ, N, and PN. Very few period subheadings were used except in Class HT.

These vocabulary studies and the search results described in the next part of this report document how insufficient is the vocabulary of LCSH for subject discrimination and how it just does not have a rich enough store of unique words for subject searching: 1,850 single terms for 1,979 books compared to 27,000 single terms found in the subject descriptions added to MARC (even if single occurrences are excluded, there are almost 15,000 terms in these subject descriptions and over 3,827 phrases which occurred twice or more).

A serious problem exists if libraries plan to use their present catalog entries for subject searching online. McClure said it and it bears saying again:

> "One might seriously question the use of the card catalog as a subject access point to information... The subject added entry on the catalog card of today, as in 1950, does not provide adequate access to the diversity of information contained in the average monograph... Perhaps we should discontinue subject added entries and replace them with machine produced subject catalogs where the <u>work</u> will be subject indexed and <u>not</u> the book."

Marcia Bates[2] goes one step further and asks:

> "Is it reasonable to use such a low-redundancy subject access system?... we must consider the possibility that the typical academic library catalog may be a major contributor to *under-utilization* of *library collections*." (italics added)

[2]Bates, Marcia. "Factors Affecting Subject Catalog Search Success," <u>J. ASIS</u>, (May, 1977), 161-169.

PART IV. THE USE OF BOOKS

A. Introduction

In early July, 1977, the BOOKS data base was available for searching online, five days a week, twelve hours a day, from any library, anywhere in the United States, Canada, Mexico or Europe. As a "semi-private" data base on SDC/ORBIT it was necessary for potential users to request access from the Subject Access Project office. Only passwords (user identification codes) which we approved were allowed access so that we could monitor use and prepare a composite report on their use.

Because BOOKS was considered an experimental file and not representative of a total library collection, we knew it would have limited interest unless we generated some interest in it as a way to test the future of online library catalogs. To generate this interest we issued a newsletter series, sent invitations for free search time to library educators and librarians whom we knew were interested in on-line searching and library automation. Several talks and demonstrations were given at professional meetings (ALA, ASIS, NYLA, SUNY-OCLC Workshop, Cornell University, Syracuse University, and North Carolina Continuing Education Program for Librarians, etc.) and at several library schools. We briefed the staffs at the Library of Congress, University of Toronto, the National Library of Canada, and other libraries in Ottawa. Special arrangements were made at the Library of Congress to brief both the Processing Department staff, the reference librarians and Planning Office staff members.

Whenever possible we solicited requests for searches, agreeing to send results (lists of citations) if the requester would comment on the results.

All in all, at our expense, approximately 100 people searched BOOKS for a total of over fifty hours online from July to December, 1977.* We estimate

*This is an estimate from our bills from SDC which only cover the use of BOOKS on our passwords. (We did none of our controlled testing and evaluation searching until January, 1978.) The average cost per sign-on to the BOOKS data base was $14.00, with the average sign-on lasting twenty minutes. This covers telecommunication charges as well as BOOKS and ORBIT connect times.

that 1,000 - 1,500 persons have heard about BOOKS and have seen demonstrations. In three different library schools (other than Syracuse) students are writing papers about our project and/or performing BOOKS searches (Toronto, Rosary, University of Washington).

We will try to draw together and summarize the results of these uses of BOOKS. No attempt will be made to use the anecdotal reports from BOOKS searches for a strict "evaluation" study. For that type of evaluation we will rely on the results of our own controlled tests at Syracuse.

B. Using BOOKS

Appendix IV.A contains the User Manual we wrote for BOOKS on ORBIT. It explains how to search BOOKS if you know ORBIT III commands and features.

A videotape on online searching is being produced at this writing with BOOKS as the data base being searched. (Inquiries about this videotape should be addressed to P. Atherton.)

A search of BOOKS can be as easy as typing every word you can think of to represent your query (see Figure IV.1). Or it can be a sophisticated use of several features of ORBIT (e.g., truncation, scanning lists of terms, building a set by using the call number and then performing a string or sentence search). Publication year (PY) can be used as a delimiter of the search output. The search can be of terms from any category of the record or from specific and named searchable categories (e.g., TI, LCH, LCT, CT, IT, ST).

A search of BOOKS can begin with some "offline" checking of the Library of Congress List of Subject Headings and L.C. Classification Schedules, a glossary, dictionary, or thesaurus. All of these sources can supply hints about terms and phrases which may result in "hits" in BOOKS. When necessary, several search strategies can be used and compared.

The second figure, Search Sample #2, shows the myriad of possibilities open to an online searcher which puts library catalog searching into a new dimension.

No longer is one required to match the first word in the title to make a "hit," nor is subject access limited to a match of your request with the L.C. heading. All words in searchable categories are accessible and the subject descriptions (CT, IT combined in ST and SP lists) allow for "free text" terms and phrases to be used.

When words are and-ed together, the chances of "false-drops" are minimized, especially if some word-proximity check is used.

In this second search example one book was found searching title words; three books were found searching the pertinent subset of the title field and then looking for phrases in the subject description portion of each record (CT and/or IT). Several print options are shown. If the full records were wanted, a "print offline" command could be given.

Names of persons (e.g., Weber, M:) and topics are both searchable in BOOKS.

Figure IV.1. Use of BOOKS -- Search Sample #1

```
SS 1 /C?
USER:
ALL TRAGEDY AND ALL LEAR AND ALL AGAMEMNON

PROG:
SS 1 PSTG (3)

SS 2 /C?
USER:
"PRT INCLUDE SNO

PROG:

-1-
CCN - PN1892 C27
ME  - CALARCO, N. JOSEPH
TI  - TRAGIC BEING; APOLLO AND DIONYSUS IN WESTERN DRAMA
IM  - MINNEAPOLIS, UNIVERSITY OF MINNESOTA PRESS, 1969
COL - 202P.
LCH - TRAGEDY - HISTORY AND CRITICISM
SNO - 2036

-2-
CCN - PN1631 B39
ME  - BENSON, CARL FREDERICK, 1916-
TI  - THE IDEA OF TRAGEDY BY CARL BENSON AND TAYLOR LITTLETON.
IM  - GLENVIEW, ILL., SCOTT, FORESMAN, 1966
COL - 370P.
LCH - TRAGEDY
LCH - DRAMA - HISTORY AND CRITICISM
SNO - 2009

-3-
CCN - PN1655 055
ME  - OLSON, ELDER, 1909-
TI  - TRAGEDY AND THE THEORY OF DRAMA.
IM  - DETROIT, WAYNE STATE UNIVERSITY PRESS, 1961
COL - 269P.
LCH - DRAMA - HISTORY AND CRITICISM
LCH - TRAGEDY
SNO - 2014
```

These three books were retrieved by the heading, Tragedy (LCH) combined with the terms Lear and Agamemnon in the ST (SAP Term) list. The portion of the records where these terms appeared CT or IT fields are not shown in this figure.

Figure IV.2. Use of BOOKS -- Search Sample #2

```
SS 1 /C?
USER:
ALL INTERGOVERNMENTAL FISCAL RELATIONS:  (LCH)
PROG:
NP (INTERGOVERNMENTAL FISCAL RELATIONS:  (LCH))
SS 1 /C?
USER:
ALL INTERGOVERNMENTAL TAX RELATIONS:  (LCH)
PROG:
NP (INTERGOVERNMENTAL TAX RELATIONS:  (LCH))
SS 1 /C?
USER:
ALL HT: (CCN) OR ALL HJ:  (CCN)
PROG:
SS 1 PSTG (561)
SS 2 /C?
USER:
ALL INTERGOVERNMENTAL (TI) AND ALL RELATIONS* (TI)
PROG:
SS 2 PSTG (1)
SS 3 /C?
USER:
"P INCLUDE PY
PROG:

-1-
CCN - HT167 C66
ME  - CONNELL, KATHLEEN M.
TI  - REGIONAL NEW TOWNS AND INTERGOVERNMENTAL RELATIONS; FOUR CASE STUDIES.
IM  - DETROIT, METROPOLITAN FUND, 1972
COL - 79P
LCH - CITIES AND TOWNS - PLANNING - UNITED STATES - CASE STUDIES
PY  - 1972

SS 3 /C?
USER:
STRS 1 (CT) :INTERGOVERNMENTAL*RELATIONS:
PROG:
SS 3 PSTG (3)
SS 4 /C?
USER:
"P TI, LCH, PY
```

Search using L.C. Subject Heading (truncated)

Building a set by entry of two call numbers (truncated)

[Title words searched]

a Hit!

Searching set of 561 items (see SS1) for phrase in contents.

3 hits!

PROG:

-1-
TI - HANDBOOK ON URBAN PLANNING, EDITED BY WM. H. CLAIRE.
LCH - CITIES AND TOWNS - PLANNING - 1945- - ADDRESSES, ESSAYS, LECTURES
PY - 1973

-2-
TI - REGIONAL NEW TOWNS AND INTERGOVERNMENTAL RELATIONS; FOUR CASE STUDIES
LCH - CITIES AND TOWNS - PLANNING - UNITED STATES - CASE STUDIES
PY - 1972

-3-
TI - THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
LCH - U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT
LCH - URBAN RENEWAL - U.S. - HISTORY
PY - 1967

SS 4 /C?
USER:
"P SNO, TI, ME, CCN, LCH, CT

PROG:

-1-
SNO - 1351
TI - HANDBOOK ON URBAN PLANNING, EDITED BY WM. H. CLAIRE.
ME - CLAIRE, WILLIAM H.
CCN - HT166 C52
LCH - CITIES AND TOWNS - PLANNING - 1945- - ADDRESSES, ESSAYS, LECTURES
CT - *GOVERNMENTAL AND SOCIOECONOMIC STRUCTURES (P. 15-31)
CT - *DATA SOURCES AND UTILIZATION RILEY RUSSELL H (P. 32-45)
.
.
.
CT - *METROPOLITAN AND REGIONAL PLANNING MAYER HAROLD M (P. 337-362) ;
STANDARD METROPOLITAN STATISTICAL AREAS (P. 340-344) ;
INTERGOVERNMENTAL RELATIONS IN METROPOLITAN PLANNING (P. 347-362)

[Stopped computer because phrase (underlined) was found. First book retrieved has 15 pages on subject.]

C. Reports About Searching BOOKS

(1) The University of Toronto, Robarts Library, Reference Department had free access to the BOOKS data base throughout the length of the project. Staff turnover and lack of experience with ORBIT caused some delays in their use of BOOKS, but they still had keen interest to try it and to serve their user population on occasion by walking over to the terminal and checking BOOKS. They also prepared some publicity for it and collected a "user evaluation" report after each search, when possible.

Their report is quoted verbatim as received in February, 1978:

> "Feelings about SAP are mixed here. Some members of the department were upset just by the fact of its existence because any automation in the library means chaos to them (a view undoubtedly supported and reinforced by the recent development of U of T microcatalogues). Others took it rightly as an experiment and tried to use it and find out what it is and how it works.
>
> Some of the disappointments we experienced were caused by our image of SAP. Somehow, in our minds, the SAP was supposed to have everything U of T owns. This pre-set idea was especially true of the section on Ontario Post-Confederation history when in fact this sub-file is relatively very small.
>
> It was somewhat difficult to persuade otherwise intelligent people that if something was not put in it cannot be pulled out. I am not sure that I was fully successful. It is a very strange phenomena, which I have observed not just once and not just at this instance, that people distrust "machines" and simultaneously accuse them of failure if they do not prove to be quite as omnipotent as these disbelievers thought them to be.
>
> On the other hand, I had a few successes in this Ontario History sub-file pulling out information on very specific subjects which appeared only in chapters of the books and would have been inaccessible otherwise. Overall, the searches on the Ontario History have not been too successful.
>
> I would think that the most successful searches of all were those on urban planning. I have done searches on waterfronts, urban transportation, redistribution within metropolitan areas, urban renewal, etc.; all of them yielded interesting results. Comparing these with those done on the Ontario History, I would speculate that the reasons for disappointment and success were:

1) the urban planning file is about 2.5x larger than the one on Ontario history;
2) the urban planning books are in general well organized, with extensive tables of contents and good indexes;
3) Ontario history books, especially those published sometime ago may lack those important scholarly qualities necessary for a successful retrieval.

I am not a very good and experienced ORBIT searcher and my earlier searches did suffer from it. Later on I improved and could say without twinges of a bad conscience that there is nothing in SAP on a particular topic.

On the other hand, I do think that the ORBIT is a cumbersome and tiresome system regardless of what their PR material says. Lack of capacity for direct word proximity searching (of course there is a STRINGSEARCH...) to name just one, creates endless difficulties.

It is too bad that SAP has not been put up by DIALOG. Retrieval would be easier and I am convinced that also the results would be better. Are you really winding down?

(2) The Library of Congress staff showed keen interest in the BOOKS data base because the use of it could be compared with the lccc file on SCORPIO. Twelve queries on Urban Planning were received from the Congressional Research Service. These were negotiated and searched in both files (lccc and BOOKS). As the conditions of the search were not completely controlled, only an impressionistic report of this comparison will be given here, in the words of the two L.C. staff members who performed the searches in the two files/systems.

L.C. Staff Person #1: With only three exceptions, L.C. subject headings were ill-suited to these questions. The headings were simply not specific enough for the terminology of the queries. In one case, L.C. subject headings did not stand a chance ("What is A95 process?"). L.C. subject headings and cross references are not in sync with current terminology (e.g., land speculation, low-income or inner-city neighborhoods).

L.C. Staff Person #2: The results of the searches of BOOKS seemed to fall into three categories. First were those that certainly were "no worse than" results from using LCSH alone, e.g., questions 1, 10, and 12. This case arises when L.C. comes up with a very relevant subject heading. Second are those cases in which BOOKS wins hands down, e.g., A95 process and section 701. There is simply no way in which LCSH is going to top that. Third are those cases in which we cannot tell from the hits which ones are useful and therefore we cannot yet do a good comparison.

> ... searching BOOKS online is far easier than searching LCSH online...easy in the sense that one approaches a question optimistically and with some assumption that the terminology of the question is very likely to match the terminology of someone's index, and that if you do have to revert to subject terms, you can check them after you've found a good citation from BOOKS.

(3) Other searches were performed at such geographically distant places as RAND (Santa Monica, California), University of Illinois (Urbana). SAP staff performed searches upon request for people as near as Buffalo, New York and as far away as Gainesville, Florida. These searches ranged over the entire BOOKS file -- for example,

citizen participation in urban planning

social security legislation and its effect on nursing homes

ancient Athens

Aboriginal art in Australia

the turnover tax

eschatology

The following are excerpts of the reports of the persons who performed the BOOKS searches or reviewed our output:

(a) Such a data base will be better than just L.C. subject headings... the retrieval of book literature is certainly a real problem...

(b) The file will be helpful when it is expanded.

(c) Your search located two important items which would not have otherwise been located... It provides users with access points previously unavailable and it further justifies libraries' increasing expenditures for books... it may also serve as an important acquisition tool.

(d) Should a comprehensive BOOKS data base become available, our library would seriously consider subscribing.

(e) Your search turned up

8 very valuable items
3 real finds
12 with loose connection
22 with absolutely no connection
10 which were known
9 which I couldn't decide on
1 too short to be useful
2 too general to be useful.

I was influenced by publication date of book and number of pages, and if the author or publisher had a reputation in the field.

(4) One special case deserves being highlighted. Early on we discovered that Professor Hulchanski had recently prepared a comprehensive bibliography on "citizenship participation in urban planning." He used the University of Toronto library as his source! This was one of our "comprehensive" subject fields in BOOKS! We performed the best search we could in BOOKS and then compared the results with the books listed in his bibliography. As there were items we found which he had not listed, we asked him to assess the BOOKS list of citations. His report was as follows.

Table IV.1. BOOKS Exhaustive Search on Citizen Participation in Urban Planning

(1)	TOTAL Number of Items Retrieved	55	(100%)
(2)	TOTAL Number Not Relevant Retrieved	17	(31%)
(3)	TOTAL Relevant Retrieved	38	(69%)
	a) Number of matches with Hulchanski bibliography	8	(15%)
	b) Number of relevant items missed by Hulchanski	4	(7%)
	c) Number of relevant items retrieved by BOOKS but with later publication date	7	(13%)
	d) Number possibly relevant which need to be examined	19	(34%)

Professor Hulchanski concluded, "In all, therefore, I feel your system has compiled a very useful bibliography of books on citizen participation."

(5) Another search for urban planning information took place at the University of Illinois City Planning and Landscape Architecture Library. Three difficult theses and term paper topics were searched with no relevant references

retrieved. They found quite a bit of Canadian and other foreign material (in English) which was of less interest. Information for one search was restricted to trying to find something on the Appalachian Regional Commission.

They found it difficult to invert index terms/phrases in a field like city planning, but did produce something about BART (the Bay Area Rapid Transit).

D. Testing the Value of SUBJECT DESCRIPTIONS for Online Searching

by Pauline Atherton, George P. D'Elia, and B.K.L. Genova*

(1) Statement of Problem

All of the previous reports and our own use of BOOKS gave us mixed feelings about the value of subject descriptions (i.e., the CT and IT fields in the BOOKS data base). We kept asking ourselves: "Are we moving library catalog design in the right direction?" Some, but not all, of our reservations had to do with the features of the ORBIT system (word proximity searches are cumbersome) and the limitations on the way the BOOKS record could be printed on ORBIT (portions of CT and IT fields could not be printed separately to show where the match occurred within the record).

Given such reservations, we wanted to find out if the SAP portion of the BOOKS record did effectively retrieve more relevant items, at less cost to the searcher, and with fewer false drops. If it did not, in controlled tests, then we would have to conclude that the project had come up with negative results and our recommendations to others should be that another route to subject access of books must be found.

In our best judgment, the proof of the value of BOOKS as a harbinger of a 21st Century Library Catalog would rest on the results of these tests. If the BOOKS record produced significantly better results than the present MARC-like

*The experimental design and statistical analyses were handled by Dr. Genova and Dr. D'Elia respectively. The principal author is especially grateful for their assistance.

records, then we were on the right track. Even if we had not created the best of all possible worlds, we had pointed the way toward an improvement which was economically feasible.

We had had enough encouraging letters and reports and comments after demonstrations to feel that the ease of searching the BOOKS data base was an improvement over traditional catalog ("manual") searching. (A class of twenty students at Syracuse University clocked their time and effort spent in searching for books on a topic at the S.U. Library catalog and on BOOKS. The average time on BOOKS was 1/5 the time at the library catalog.) Nevertheless, we were not convinced that this was typical of all subject catalog searching nor were we sure that the subject description portion of the online catalog record made the difference.

We established a controlled test environment for determining the answers to the following questions:

(1) For subject searching, does the BOOKS-style record aid in the retrieval of more relevant items than the existing MARC records?*

(2) Are the times and costs of online subject searching the BOOKS records significantly different from the times and costs associated with online subject searching of MARC records?

(3) Are a significant number of relevant items missed when the results of searching BOOKS and MARC records are compared?

(4) Are a significantly higher number of non-relevant items retrieved when BOOKS records are searched? In other words, is the precision of BOOKS search lower than MARC?

(5) Are a significant number of items retrieved from a BOOKS search which is matched by a search of MARC records?

*For purposes of this comparison, the UTLAS portion of the BOOKS record is called the MARC record because it represents the typical library catalog record on MARC even though somewhat abbreviated.

(6) Do any of the answers to the questions above change if the subject field of the query changes (i.e., a request from information from a field in the humanities or a field in the social sciences)?

In effect we would be pitting "controlled vocabulary" searching against "free text" searching in these tests. This is not quite accurate to say because the present MARC record includes the "title" of the book and the words in the title are searchable in the MARC portion of the BOOKS data base on ORBIT.

Stated as a research problem, we attempted to design an experiment for comparing the performance of two subject access systems -- one we call MARC, based on the existing library catalog record which is available in machine-readable form and exists in such systems as lccc/SCORPIO, OCLC, UTLAS, BALLOTS, and LIBCON/ORBIT; the other, we call BOOKS and it is an augmented MARC record with a lengthy subject description in "free text" selected from the contents page and/or index of the book itself.

The unit of analysis forming the statistical population under investigation are the searches performed online using the two subject access systems, MARC and BOOKS.

The criterion variables used for comparing performance of the two systems on each search are:

(1) the number of relevant books retrieved

(2) the precision ratio of the search, and

(3) the computer connect time required for each search

As designed we had both experimental factors (the two systems MARC and BOOKS) and classification factors (searches in two subject areas, social sciences and humanities) which formed a series of related experimental treatments or related classifications.

The experimental and classification factors are nominal level measures. The number of relevant documents retrieved and the search time for each search are

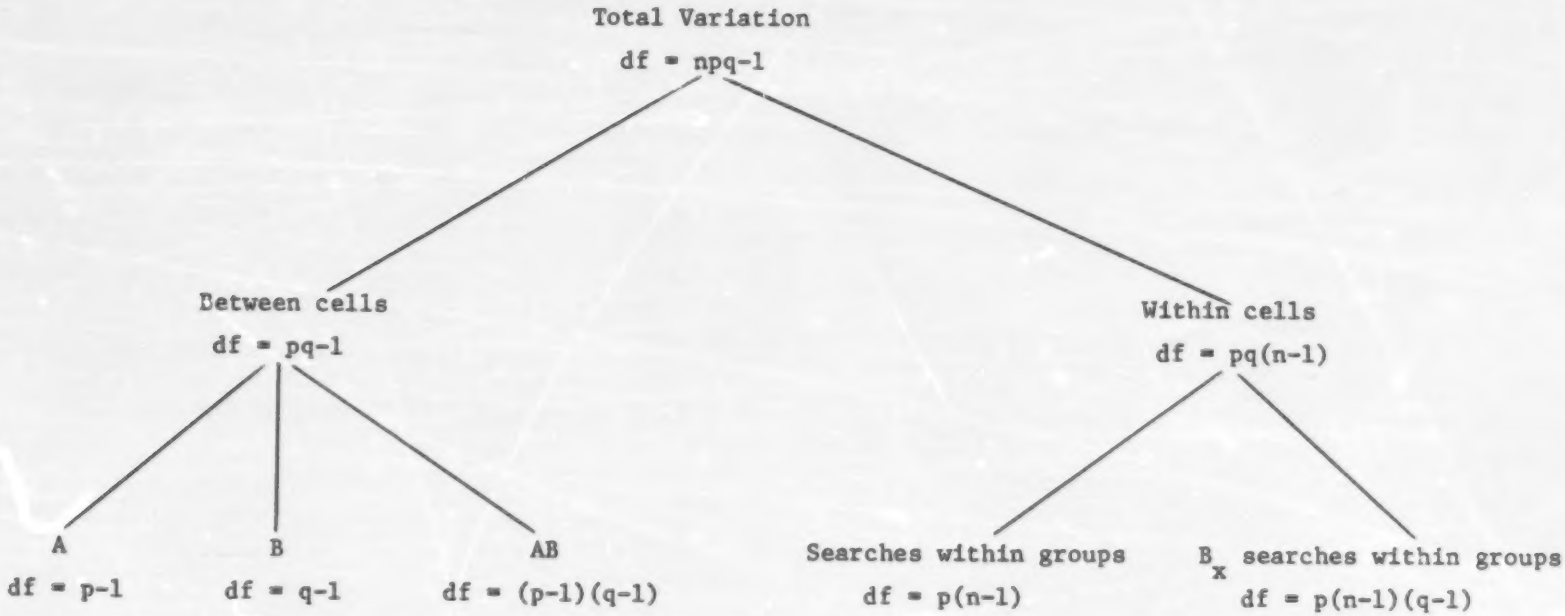
ratio level measures. The precision ratio for each search can be used as a 100 point interval level scale.

(2) Discussion of Method of Analysis

The following method of analysis is appropriate for each of the three criterion variables. Since we are interested in comparing the results of literature searches in the social sciences and the humanities using a MARC system and a BOOKS system, a 2x2 analysis of variance would seem to be appropriate. With this design the variation among the results of the searches can be partitioned into the variation due to the indexing systems, the variation due to the subject areas searched, the variation due to the interaction of the indexing system with the subject area, and the variation due to unknown and uncontrolled variables, such as measurement errors or differences among the search queries which existed prior to or apart from the experimental treatment. Since it is reasonable to expect a great deal of variation to exist among the search queries apart from the experimental treatment, then it would improve the sensitivity of the experiment to partition this source of variation away from the treatment effects and the experimental error. This further partitioning of the experimental error can be accomplished by using a repeated measures design in which each query in the social sciences is searched using the MARC system and then again using the BOOKS system. A similar procedure would be followed for all queries in the humanities. Thus the total experimental variation could be partitioned into variation due to the A effect, the B effect, the AB interaction effect, differences among the queries and residual experimental error. This design is designated a 2x2 Split-Plot Factorial with repeated measures on one factor (SPF-2·2). (See Figure IV.3.) In this type of experiment the performance of each search for each treatment is measured relative to the average performance of search i on all treatments. In this sense each search serves as its own control. The performance of each search for each treatment is measured in terms of deviations about a point which measures the average performance of that

search. Thus variability due to differences in the average performance of the search is eliminated from the experimental error. It was decided therefore that a SPF-2·2 experimental design with repeated measures across the treatments would be the most appropriate method of analysis for comparing the two indexing systems. A generalized model of a SPF-p·q design is presented in Figure IV.4.

Figure IV.3. Schematic Representation of the Partitioning of the Total Variation in a SPF-2·2 Design with Repeated Measures on Factor B



p = levels of Factor A (Classification: Social Sciences, Humanities)

q = levels of Factor B (Experimental System: MARC, BOOKS)

n = number of searches conducted for each level of Factor B

Searches within groups represents variation due to differences among the searches.

B_x searches within groups represents variation due to experimental error.

Figure IV.4. General Model for a SPF-p·q Design with Repeated Measures on Factor B.

	Search	b_1	b_j	b_q	Total
a_1	1	X_{111}	X_{1j1}	X_{1q1}	P_1
	k	X_{11k}	X_{1jk}	X_{1qk}	P_k
	n	X_{11n}	X_{1jn}	X_{1qn}	P_n
a_i	1	X_{i11}	X_{ij1}	X_{iq1}	P_1
	k	X_{i1k}	X_{ijk}	X_{iqk}	P_k
	n	X_{i1n}	X_{ijn}	X_{iqn}	P_n
a_p	1	X_{p11}	X_{pj1}	X_{pq1}	P_1
	k	X_{p1k}	X_{pjk}	X_{pqk}	P_k
	n	X_{p1n}	X_{pjn}	X_{pqn}	P_n
	Total	Σb_1	Σb_j	Σb_q	G

i = any given level of Factor A
j = any given level of Factor B
k = any given search
p = number of levels of Factor A
q = number of levels of Factor B
n = number of searches per cell
X = the criterion measure
P = sum of X for each search across all levels of b

(3) Data Collection

To make these tests as "real" as possible we asked for queries from faculty and graduate students at Syracuse University. These persons agreed to ask queries on topics of interest to them and they also agreed to assess the results of the search. We received queries from eight different people, with no more than 15 queries in the social sciences or humanities for a single person. In all, we processed 90 queries, as they were stated. These queries are listed in Appendix IV.B.

All searchers were skilled ORBIT searchers. The searches in the BOOKS system were performed by one person. Two searchers performed the searches in MARC. The three searchers agreed to the following ground rules:

1) The MARC-searcher would limit the search to the portion of the BOOKS record other than the CT and IT categories and would not scan the BIW list. All searches would be in the TI, CCN, or LCH categories and in the CCN, TI, LCH, and LCT lists. The BOOKS-searcher had no such limitations.
2) Either searcher could use any feature of the ORBIT system.
3) An attempt should be made to limit the final result to 25 items. If the results were less than five, there should be some attempt to increase the output.
4) Prior to searching online, reference tools (LCSH, thesauri) could be used by either searcher.
5) Offline prints could be requested, but in the case of MARC-searches only the PRINT or PRINT TRIAL commands could be used (preventing an output of CT and IT). The BOOKS searcher could request an offline print of the full record.
6) Time of each search online should be recorded by the computer (This did not include requests for offline printouts).

7) The log of each search (time spent, items retrieved) would be recorded by each searcher and the SNO numbers for each item retrieved recorded on a relevance assessment worksheet (see Forms 1 and 2, Figures IV.5 and IV.6 respectively).

The requesters who were asked to review the output of both searches were asked to follow these procedures:

1) Flip a coin to choose which output to review and assess first: heads, BOOKS; tails, MARC.

2) Review all the output from one method for each query and record the relevance assessments on the worksheet (form 2) using a 4-point scale:

   a) Relevant - Known (R-K)
   b) Relevant - Not Known (R-NK)
   c) Possibly Relevant (PR)
   d) Not Relevant (NR)

   Comments could be added.

3) Turn to the output for that query and assess the relevance of the output from the other search method. Record assessments on the worksheet provided for that method.

4) Flip a coin to choose which output to review and assess for the second to last query in the set. Follow steps 2-4 until the set is completed.

In all, 90 queries were searched which represented three fields in the social sciences and three fields in the humanities. The queries came from eight different people. The variety of relevance judges did not concern us because this variation was true to life.

(4) Data Analysis

Complete data matrices for all three experiments appear in Appendix IV.C. Each set of data was submitted to an analysis of variance. The general format is presented in Table IV.2.

Figure IV.5. Form 1. Subject Access Project - Search Log

Query: # 14

How can I eliminate the use of the deduction theorem?

Requester: McKay Searcher: _____

Method Used: LCH SAP

Time online .07 hour .04 hour

Summary of Evaluation:

	LCH		SAP	
	Raw Tally	%	Raw Tally	%
Retrieved	2		1	
Relevant/Known	0		0	
Relevant/Not Known	0		1	
Possibly Relevant	0		0	
Not Relevant	2		0	

Figure IV.6 Form 2. Relevancy Assessment Worksheet SAP Evaluation Query Logic #14

Citation	SNO	Relevant/ Known	Relevant/ Not Known	Possibly Relevant	Not Relevant	Comments (LCH or SAP)
1	1029				✓	
2	1942				✓	Snicker, Snicker*
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
TOTALS						

*For explanation of comments, see Appendix IV.D. (Interesting Query Humanities #2)

Table IV.2. Analysis of Variance Table for a SPF-2·2 Design with Repeated Measures on Factor B

Source of variation	df	F
Between searches	np - 1	
A	p - 1	$MS_a/MS_{\text{searches within groups}}$
Searches within groups	p(n - 1)	
Within searches	np(q - 1)	
B	q - 1	$MS_b/MS_{\text{B x searches within groups}}$
AB	(p-1)(q-1)	$MS_{ab}/MS_{\text{B x searches within groups}}$
B x searches within groups	p(n-1) (q-1)	

To test the hypothesis of no interaction between subject area and subject access system, the F-ratio was formed between MS_{ab} and the error term $MS_{B \times searches\ within\ groups}$.

To text the hypothesis of no difference between subject areas, the F-ratio was formed between MS_a and the error term $MS_{searches\ within\ groups}$. To test the hypothesis of no difference between systems, the F-ratio was formed between MS_b and $MS_{B \times searches\ within\ groups}$. Since there are only two levels of A and two levels of B no further analysis is required.

(5) Results

Experiment One: Criterion = number of relevant documents retrieved.

The results of the analysis, reported in Table IV.3, indicate no significant interaction effect, no significant A effect and a significant B effect.

Therefore it is concluded that:

> searches conducted with BOOKS yield a significantly greater number of relevant documents than do searches conducted with MARC.

Experiment Two: Criterion = precision ratio per search.

The results of the analysis, reported in Table IV.4, indicate no significant interaction effect, no significant B effect and a significant A effect.

Therefore it is concluded that:

> there is no significant difference between the precision ratios of searches conducted with MARC or BOOKS.

It is also concluded that:

> regardless of subject access system, searches in the humanities have higher precision ratios than do searches in the social sciences.

Experiment Three: Criterion = computer connect time per search.

The results of the analysis, reported in Table IV.5, indicate no interaction effect, a significant A effect and a significant B effect.

It is concluded, therefore that:

Table IV.3 SPF-2·2 Design with Repeated Measures for Testing Differences Between Social Sciences and Humanities Searches Using MARC and BOOKS

Criterion = Number of Relevant Documents Retrieved per Search.

	Search	B_1 MARC	B_2 BOOKS	
A_1 Social Sciences	1 . . . . . 4 5	$\Sigma AB_{11} = 31$	$\Sigma AB_{12} = 61$	$\Sigma A_1 = 92$ $\Sigma \bar{A}_1 = 1.02$ $\Sigma X^2 = 388$ $\Sigma P^2 = 674$
A_2 Humanities	1 . . . . . 4 5	$\Sigma AB_{21} = 25$	$\Sigma AB_{21} = 70$	$\Sigma A_2 = 95$ $\Sigma \bar{A}_2 = 1.06$ $\Sigma X^2 = 297$ $\Sigma P^2 = 409$
		$\Sigma B_1 = 56$ $\bar{B}_1 = .62$	$\Sigma B_2 = 131$ $\bar{B}_2 = 1.46$	$G = 187$ $\bar{G} = 1.04$

Analysis of Variance Table

Source	SS	df	MS	F
Between searches	347.23	89		
A	.05	1	.05	.01
Searches within groups	347.18	88	3.95	
Within searches	143.50	90		
B	31.25	1	31.25	24.80**
AB	1.25	1	1.25	.99
B x searches within groups	111.00	88	1.26	
Total	490.73	179		

** $F_{.99(1,88)} \approx 6.97$

Table IV.4. SPF-2·2 Design with Repeated Measures for Testing Differences Between Social Sciences and Humanities Searches Using MARC and BOOKS

Criterion = Precision Ratio per Search.

	Search	B_1 MARC	B_2 BOOKS	
A_1 Social Sciences	1 . . . 4 5	$\Sigma AB_{11} = 12.79$	$\Sigma AB_{12} = 15.88$	$\Sigma A_1 = 28.67$ $\bar{A}_1 = .32$ $\Sigma X^2 = 17.57$ $\Sigma P^2 = 14.42$
A_2 Humanities	1 . . . 4 5	$\Sigma AB_{21} = 18.68$	$\Sigma AB_{22} = 24.67$	$\Sigma A_2 = 43.35$ $\bar{A}_2 = .48$ $\Sigma X^2 = 34.75$ $\Sigma P^2 = 28.55$
		$\Sigma B_1 = 31.47$ $\bar{B}_1 = .35$	$\Sigma B_2 = 40.55$ $\bar{B}_2 = .45$	$G = 72.02$ $\bar{G} = .40$

Analysis of Variance Table

Source	SS	df	MS	F
Between searches	14.15	89		
A	1.19	1	1.19	7.93**
Searches within groups	12.96	88	.15	
Within searches	9.35	90		
B	.45	1	.45	4.50
AB	.06	1	.06	.60
B x searches within groups	8.84	88	.10	
Total	23.50	179		

**$F_{.99(1,88)} \approx 6.97$

Table IV.5. SPF-2·2 Design with Repeated Measures for Testing Differences Between Social Sciences and Humanities Queries Using MARC and BOOKS Indexing Systems

Criterion = CPU Time per Search

	Search	B_1 MARC	B_2 BOOKS	
A_1 Social Sciences	1 . . . 4 5	$\Sigma AB_{11} = 6.86$	$\Sigma AB_{12} = 3.86$	$\Sigma A_1 = 10.72$ $\bar{A}_1 = .12$ $\Sigma X^2 = 1.66$ $\Sigma P^2 = 1.44$
A_2 Humanities	1 . . . 4 5	$\Sigma AB_{21} = 5.52$	$\Sigma AB_{22} = 2.67$	$\Sigma A_2 = 8.19$ $\bar{A}_2 = .09$ $\Sigma X^2 = 1.00$ $\Sigma P^2 = .85$
		$\Sigma B_1 = 12.38$ $\bar{B}_1 = .14$	$\Sigma B_2 = 6.53$ $\bar{B}_2 = .07$	$G = 18.91$ $\bar{G} = .11$

Analysis of Variance Table

Source	SS	df	MS	F
Between searches	.30	89		
A	.03	1	.03	10.00**
Searches within groups	.27	88	.003	
Within searches	.37	90		
B	.19	1	.19	95.00**
AB	.00	1	.00	.00
B x searches within groups	.18	88	.002	
Total	.67	179		

**$F_{.99(1,88)} \approx 6.97$

regardless of indexing system, searches in the humanities take significantly less time than do searches in the social sciences. Also, searches conducted with the BOOKS subject access system take significantly less time than do searches conducted with the MARC subject access system regardless of whether the searches are in the humanities or the social sciences.

(6) Discussion of Findings

(a) Does the BOOKS-style record aid in the retrieval of more relevant items than the existing MARC records?

For the 90 searches there was an estimated number of 172 relevant items. Searching the BOOKS-style record retrieved a total of 131 items; searching the MARC-style record, 56 items were retrieved. See Table A.IV.3. in Appendix IV.

As recall of relevant items is one of the most difficult measures of a retrieval system, these figures should not be quoted as absolute findings. Our estimate of relevant items in the file may be suspect, but we consider it a useful measure for comparative studies. In effect we are saying, two searches were performed and the outputs assessed. The combined list of relevant documents should have been retrieved by either search -- were they? The answer over and over again for each of the fields was the significant finding that

BOOKS retrieved at least twice as many of the relevant items, and sometimes three times as many as MARC.

(b) Are the times and costs of online subject searching the BOOKS records significantly different from the times and costs associated with online subject searching of MARC records?

The search times online for the 90 searches in the humanities and social sciences had the following overall averages:

	Humanities	Social Science
MARC	.12 hr.	.15 hr.
BOOKS	.06 hr.	.08 hr.

We conclude from this that the time and costs for searching BOOKS is significantly less than the time and cost of searching MARC. Add to this the staff time required beforehand to check LCSH and you have to conclude that BOOKS is the more efficient search. A difference which was significant was also noted between humanities and social science search times.

(c) Are a significantly higher number of non-relevant items retrieved when BOOKS records are searched? In other words, is the precision of a BOOKS search lower than MARC?

The first startling fact is that the precision figures for both systems are below 67%! Both MARC and BOOKS retrieved two or three non-relevant items for each useful/relevant item!

Both the MARC and BOOKS searches were lower on precision for the social science queries than the humanities. This may be a function of the queries (see list in Appendix IV.B) or of the match between queries and data base. Regardless, the comparison of MARC and BOOKS is the issue here; there is no significant difference between the precision ratio for BOOKS and MARC.

(d) Are a significant number of relevant items missed when the results of searching BOOKS and MARC records are compared? See Table A.IV.3.

The complete data matrix in Appendix IV needs to be scanned to answer this question, for the overall "estimated recall" of relevant items was higher for BOOKS. Nevertheless, for some queries in some fields, BOOKS may have missed more relevant items than MARC and this would be an important finding.

Nine queries (Psychology - 14, Anthropology - 6, Graeco-Roman - 5, Art - 5, Art - 7, Logic - 1, Logic - 3, Logic - 5, and Logic - 9) were instances where BOOKS searches retrieved fewer of the relevant items (missed items in all).

In Appendix IV, a few of the queries are analyzed to show how each search technique scored. In the worst case (Anthropology - 6) MARC recall was 75% and

BOOKS 25%, but the precision of the output was 24% and 66%, respectively. This is a classical example of the oft-quoted "inverse ratio between precision and recall."

(e) Are a significant number of items retrieved from a BOOKS search which are matched by a search of MARC records?

This question was raised to answer the objection to all the costs of BOOKS selection and input -- why bother if you get the same results or similar output.

There were very few matches (5%) in retrieval output -- this in and of itself is a startling fact!

Table IV.6. Number of Matches in Output

Social Sciences	# Queries with Matches	# Items Matched
Psychology	10	25
Anthropology	0	0
Social Science (genl.)	2	3
Humanities		
Graeco-Roman	5	9
Art	7	11
Logic	3	4
	27/90 queries	52 matches/1,143 items retrieved

Almost 1/3 of the queries contained some matches in output, but only one in 20 items matched. Fifty-two of the 712 items (7%) retrieved by BOOKS searches were retrieved by MARC searches, and of these 52, fourteen were assessed relevant.

Fifty-two of the 431 items (12%) retrieved by MARC searches were retrieved by BOOKS searches, and of these 52, fourteen were assessed relevant.

This fact alone would lead one to think that both types of searches are needed to retrieve relevant documents if something could be done about the low precision figures for each type of search.

(f) Do any of the answers to the questions above change if the field of the query changes? In other words are there significantly different answers to the above questions if one is discussing the humanities or social science results?

The results of our controlled tests indicate:

a) no significant difference in number of relevant documents retrieved based on subject area;

b) searches in humanities have higher precision ratios than do searches in the social sciences;

c) searches in the humanities take significantly less time than do searches in the social sciences;

d) no significant differences in number of queries with matches using BOOKS or MARC and no significant differences in number of items matched.

In summary, our results lead us to conclude that we can recommend the BOOKS record as a better record for subject searching than the MARC record.

PART V. EXPLORATORY STUDIES IN SUBJECT DESCRIPTION

Introduction

Our efforts to augment the subject description of books were just getting underway in 1975-76 when we learned of related events to improve subject access in library catalogs -- PRECIS at the British National Bibliography and an "In-Depth Subject Cataloging Apporach" at Brodart, Inc.

We made contact with these activities and have also consulted a few publishers of books and the abstracting and indexing services who cover books in their fields. Time did not permit us to pursue these contacts over an extended period of time, but we thought it best to document our vain attempts to alert interested parties.

A. In-Depth Subject Cataloging Approach at BRODART, Inc.

At the 1976 ALA meeting we learned that Brodart had undertaken a re-cataloging of all the titles classified by Dewey 300-369 in the Public Library Catalog. They hired subject catalogers to add 10 or more subject headings, using Sears List of Subject Headings or assigning some "more specific, yet simple heading" and changing to non-Sears subdivisions like "Pro and Con."

They did 810 titles and added 10,780 subject headings, an average of 13.3 subjects per title. They entered these into their COM catalogs.

To our knowledge there has been no expansion of this project.

As we were not covering much of the same titles it was not possible for us to make any comparisons.

B. PRECIS

There has been a great deal of interest about PRECIS in Canada and the United States in the last few years. Conferences and workshops have been held and some were championing the cause of PRECIS as the next subject indexing scheme for the Library of Congress. Only in January 1978 were these pursuits aborted with

the news that L.C. would not adopt PRECIS when it closed its card catalog in 1980.

Even so, we pursued a comparison of our subject descriptions with PRECIS indexing to check out if this preserved-context-indexing system, with its rigorous analytico-synthetic construction, might not be a better means of subject access than our non-intellectually based crude subject descriptions made from what the book contains in its table of contents and/or index.

We examined the differences between BOOKS and PRECIS without performing any careful tests. What follows is our report of these examinations. If more time permitted, we would have run controlled retrieval tests similar to those reported between MARC and BOOKS in Part IV of this report.

(1) Books on Sociology

With the assistance of Mrs. Florence Hayes at Cornell University, we examined the L.C. heading, our subject description and PRECIS string for 10 books in sociology. Figures V.1a and b illustrate what we found.

(2) Books Published in England After 1968

Because we could search the BOOKS data base by date and place of publication, we decided to see how many books in the BOOKS file might be in the BNB and indexed by PRECIS. One hundred twenty-five titles qualified, but time only permitted a check of a few titles in the BNB itself. For 8 books we found the PRECIS string, or at least one manipulation of it. The full BOOKS record is included here with the PRECIS string as we found it in the BNB, along with the BNB number and the Dewey class number. Four different subject areas are represented in the next four figures.

Figure V.1. MARC, BOOKS and PRECIS Comparison

a)

MARC

RSN - 00889901
SNO - 1767
CCN - HM131 C7477
ME - Coser, Lewis A., 1913-
TI - Greedy institutions; patterns of undivided commitment
IM - New York, Free Press, 1974
COL - 166p.
PY - 1974
LCH - Social institutions; Commitment (Psychology)
LCH - Affiliation (Psychology); Power (Social sciences)
IT - *ALIENS AS SERVANTS OF POWER (P. 32-46)
IT - *BOLSHEVIK PARTY ORGAN IZATION (P. 126-135)
IT - *CATHOLIC PRIESTS SACERDOTAL CELIBACY AMONG (P. 150-161)
IT - CHRISTIANS AS SERVANTS TO OTTOMAN POWER (P. 40-46)
IT - *DOMESTIC SERVANTS OBSOLESCENCE OF (P. 67-88)
IT - *EUNUCHS POLITICAL FUNCTION OF (P. 21-31)
IT - *FAMILY AS GREEDY INSTITUTION (P. 89-100)
IT - GERMANY COURT JEWS IN (P. 34-40)
IT - *GREAT BRITAIN DOMESTIC SERVANTS IN (P. 67-77)
IT - JESUITS ORGANIZATION OF (P. 118-126)
IT - JEWS AS SERVANTS OF GERMAN POWER (P. 33- 40)
IT - LOUIS XV MISTRESSES OF (P. 58-63)
IT - MAINTENON FRANCOISE DE (P. 56- 60)
IT - MARRIAGE : SACERDOTAL CELIBACY AND (P. 150-157) : UTOPIAN COMMUNITIES AND (P. 138-142)
IT - *MASTER SERVANT RELATIONS (P. 68-88)
IT - *MILITANT COLLEC TIVES (P. 117-135)
IT - *POLITICAL EUNUCHISM (P. 22-31)
IT - *ROYAL MISTRESSES AS INSTRUMENT OF RULE (P. 47-63)
IT - *SECTS (P. 103-115)
*SECTS (P. 103-115)
IT - *SEXUALITY : SACERDOTAL CELIBACY AND (P. 150-161) : UTOPIAN COMMUNITIES AND (P. 136- 149); *WOMEN FAMILY AND (P. 90-100)

PRECIS entry from 1974 BNB:

Commitment

b)

MARC

RSN - 00595160
SNO - 1790
CCN - HM133 H4
ME - Herbst, P. G.
TI - Behavioural worlds, the study of single cases
IM - London, Tavistock Publications, 1970
COL - 248p.
PY - 1970
LCH - Small groups - Case studies; Social science research
LCH - Social sciences - Methodology
IT - ANXIETY; BOREDOM; *CONSTRAINTS OF TASK STRUCTURE (P. 74-84)
IT - *ENGAGED COUPLE FROM DATING TO MARRIAGE (P. 161-187); HERBST P G
IT - LINEAR NETWORKS PROPERTIES OF (P. 41-46)
IT - OUTPUT RATE AS FUNCTION OF WORK RATE AND LEVEL OF INTEGRATION (P. 71-78); STRESS

PRECIS entry from 1971 BNB:

Behavior. Man.

Research. (1 entry)

Figure V.2. MARC, BOOKS, & PRECIS - Book in Public Finance

MARC

RSN - 00682872
SNO - 1883
CCN - HJ1013 B155
ME - Baker, Norman
TI - Government and contractors: the British Treasury and war supplies, 1775-1783.
IM - London, Athlone Press, 197:
COL - 274p.
SER - University of London. Historical studies, 30
PY - 1971
LCH - Gt. Brit. Treasury; Defense contracts - Gt. Brit. - History
LCH - U.S. - History - Revolution - Supplies
IT - AGENTS PROBLEMS WITH CONTRACTORS' AGENTS (P. 122-126)
IT - AMYAND JOHN M P; APOTHECARY GENERAL (P. 184-188)
IT - *ATKINSON RICHARD CONTROVERSY OVER RUM SUPPLIED BY (P. 165-175)
IT - *BACON ANTHONY AS CONTRACTOR FOR COAL (P. 189-198)
IT - BARING FRANCIS; BARRACK FURNITURE (P. 208-215); BAYNES WILLIAM
IT - BEEF; BLACKBURN JOHN; CAMP EQUIPMENT (P. 208-215); CANADA
IT - CHERRY GEORGE; *COAL (P. 189-199); COMMISSION
IT - CONTRACTORS ; ACCOUNTS OF ; FAIL TO OBSERVE FULL TERMS OF CONTRACTS (P. 111-115)
IT - *CONTRACTS ; AS POLITICAL PATRONAGE (P. 216-220) ; PRICING UNDER (P. 35-39 46-55) ; NEGOTIATION OF (P. 43-56) ; PROFITS UNDER (P. 242-248); *CORK (P. 35-39 64-79 94-101); CORNWALL CHARLES WOLFRAN
IT - COWES I O W; DEVAYNES WILLIAM M P
IT - DRUMMOND HENRY M P (P. 175-183); DURAND JOHN M P
IT - EAST ANGLIA AS A SOURCE OF SUPPLIES (P. 80-86); FLOUR
IT - FRANKS MOSES; FRENCH JAMES BOGLE; GARNIER GEORGE (P. 184-188)
IT - GORDON ROBERT GENERAL ASSESSMENT AS COMMISSARY AT CORK (P. 94-101)
IT - HARLEY RT HON THOMAS M P AS CONTRACTOR FOR SPECIE (P. 175-183)
IT - HENNIKER DEVAYNES AND WOMBWELL; HENNIKER JOHN M P
IT - HOWE GENERAL SIR WILLIAM M P; INDIAN GOODS (P. 199-205)
IT - *IRELAND AS SOURCE OF SUPPLY (P. 66-80); JAMES SIR WILLIAM M P
IT - JENKINSON CHARLES M P
IT - KNOX WILLIAM AS AGENT FOR INDIAN GOODS (P. 201-205)
IT - LONDON CORN EXCHANGE
IT - LOYALISTS CLOTHING AND EQUIPMENT FOR (P. 200-215); MASON KENDER
IT - MAYNE ROBERT M P; MEDICINES (P. 184-188); MILLS WILLIAM
IT - MURE SON AND ATKINSON
IT - NAVY BOARD COMMISSIONERS OF THE NAVY IN CONTROVERSY OVER DELIVERIES IN IRELAND (P. 64-72); NESBITT ARNOLD M P
IT - NESBITT DRUMMOND AND FRANKS
IT - NORTH LORD FREDERICK M P RETAINS CONTRACTING SYSTEM DESPITE DEFICIENCIES (P. 248-253); NOVA SCOTIA; PEAS
IT - POTTER CHRISTOPHER M P
IT - *PROVISIONS ; SHIPMENT OF (P. 91-95) ; DELIVERY OF (P. 66-72) ; LATE DELIVERIES OF (P. 110-114) ; GOVERNMENT RECEPTION AND INSPECTION OF (P. 91-101) ; COMPLAINTS OF QUALITY OF (P. 101-105) ; DISPOSAL OF EXCESS OF 1782-3 (P. 147-160); RICHARDSON ANTHONY
IT - ROBINSON JOHN M P
IT - *RUM CONTRACTS FOR (P. 161-175) ; CONTROVERSY OVER (P. 165-175)
IT - SMITH AND FITZHUGH; SPECIE SUPPLY OF (P. 175-183)
IT - STEPHENSON JOHN M P
IT - TREASURY LIASON WITH OTHER GOVERNMENT DEPARTMENTS (P. 42-48)
IT - VICTUALLING BOARD (P. 42-48); WOMBWELL SIR GEORGE M P

PRECIS:

1971
B71 - 20336 355.8

1. Military equipment and supplies
   War of American Independence
   - Provision of military supplies to British Army
   Role of British Treasury
   Military supplies
2. Great Britain. Army.
   War of American Independence
3. Great Britain. Treasury.
   - Provision. Role of British Treasury.
   War of American Independence
   - Great Britain. Army. Military Supplies.
   Provision. Role of British Treasury.

Figure V.3. MARC, BOOKS, & PRECIS - Book in Urban Planning

MARC

RSN - 00745525
SNO - 0397
CCN - HT166 M365
ME - Massey, Doreen B.
TI - The basic: service categorisation in planning
IM - London, Centre for Environmental Studies, 1971
COL - 41p.
SER - Centre for Environmental Studies. Working papers, 63
PY - 1971
LCH - Cities and towns - Planning - 1945-; Industries, Location of
CT - *THEORETICAL DEFINITION OF BASIC AND SERVICE CATEGORIES (P. 9-20) : CATEGORISATION ON FUNCTIONAL CRITERIA (P. 13-20)
CT - USE OF BASIC SERVICE CONCEPTS IN LOWRY MODEL (P. 21-29)
CT - *USE OF BASIC SERVCIE CONCEPTS IN PLANNING (P. 30-41) ; POLICY TESTING IMPLICATIONS OF THE CONCEPTS (P. 30-41) / ANALYSIS OF LOCATIONAL BASIC SERVICE CONCEPT IN POLICY TESTING CONTEXT (P. 36-41)

PRECIS:

B71 - 22522 338
Industries. Basic and Service Categorization

Figure V.4. MARC, BOOKS, & PRECIS - Book in Ethics

MARC

RSN - 00617252
SNO - 1149
CCN - BJ1461 M64
ME - Mortimore, Geoffrey, comp.
TI - Weakness of will.
IM - London, Macmillan, 1971
COL - 255p.
SER - Controversies in philosophy
PY - 1971
LCH - Will - Addresses, essays, lectures
LCH - Ethics - Addresses, essays, lectures
CT - *SOCRATIC PARADOX (P. 29-96) ; EVIL PLATO (P. 29-36) ; PLATO'S PROTAGORAS AND EXPLANATIONS OF WEAKNESS SANTAS GERASIMOS (P. 37-62) ; CONTINENCE AND INCONTINENCE ARISTOTLE (P. 63-68) ; ARISTOTLE ON MORAL WEAKNESS HARDIE W F R (P. 69-96)
CT - *HARE'S PARADOX (P. 97-176) ; ASSENTING TO A MORAL PRINCIPLE GARDINER P L (P. 100-117) ; ASSENT TO MORAL RULE HORSBURGH H J N (P. 118-131) ; BACKSLIDING HARE R M (P. 132-146) ; MORAL WEAKNESS LUKES STEVEN (P. 147-159) ; WEAKNESS OF WILL MATTHEWS GWYNNETH (P. 160-176)
CT - *ACTIONS AGAINST BETTER JUDGEMENT (P. 177-246) ; ACTING WITH REASON GRIFFITHS A PHILLIPS (P. 177-189) ; OUGHTS AND WANTS COOPER NEIL (P. 190-199) ; WANTS DESIRES AND DELIBERATION BENSON JOHN (P. 200-215) ; OUGHTS AND WANTS COOPER NEIL (P. 216-225) ; OUGHTS AND WANTS BENSON JOHN (P. 226-232) ; ACTING AGAINST BETTER JUDGEMENT THALBERG IRVING (P. 233-246)

PRECIS:

B71 - 04855 123
Freedom and Necessity
Free Will and Determinism

Figure V.5. MARC, BOOKS, & PRECIS - Book in Drama

MARC

RSN - 00632951
SNO - 2106
CCN - PN1998 A3 R66513
ME - Guarner, Jose Luis
TI - Roberto Rossellini: Translated by Elisabeth Cameron.
IM - London , S tudio Vista, c1970
COL - 144p.
PY - 1970
LCH - Rossellini, Roberto, 1906-
CT - THREE FASCIST FILMS (P. 7-:1); ROMA CITTA APERTA (P. 13-18)
CT - L'AMORE (P. 25-27); GERMANIA ANNO ZERO (P. 28-32)
CT - LA MACCHINA AMMAZZACATTIVI (P. 33-38)
CT - STROMBOLI TERRA DI DIO (P. 39-43)
CT - FRANCESCO G'ULLARE DI DIO (P. 44-49)
CT - VIAGGIO IN ITALIA (P. 57-63); ERA NOTTE A ROMA (P. 82-86)
CT - VIVA L'ITALIA (P. 87-93); V:NINA VANINI (P. 94-99)
CT - L'ETA DEL FERRO (P. 105-11:)
CT - LA PRISE DE POUVOIR PAR LOUIS XIV (P. 112-117)
CT - "ATTI DEGLI APOSTOLI (P. 121-132) FI_MOGRAPHY (P. 137-142)

PRECIS:

B71 - 06296 791.4302330924
Cinema films directed by R.R.

(3) PRECIS Strings and BOOKS Records -- a Comparison

Thanks to Dr. Phyllis Richmond who is writing a book on PRECIS, we were able to find the exact PRECIS string for some books identically classified with books in BOOKS. As the vocabulary is the important aspect to study for retrieval purposes, these records are given here as they appear on the PRECIS indexing record Dr. Richmond photocopied in England. The record in our file and the PRECIS string may not be for the same title, but they are for books classified identically. Four of the ten fields in the BOOKS data base are represented here.

Figure V.6. BOOKS and PRECIS Records for Book in LC Class HT

MARC

RSN - 00703736
SNO - 0692
CCN - HT169 G7 P5
TI - Planning for urban growth; British perspectives on the planning process. Edited by John L. Taylor.
IM - New York, Praeger Publishers, 1972
COL - 194p.
SER - Praeger special studies in international politics and public affairs
PY - 1972
LCH - Cities and towns - Planning - Great Britain - Congresses
CT - *JAMES JOHN R (P. 3-12); *AREA PERSPECTIVES RAM V. J. (P. 13-26)
CT - *COMMUNICATIONS AND TRANSPORT PLANNING DERBYSHIRE ANDREW (P. 27-42); *PLANNING LEGISLATION HEAP DESMOND (P. 43-57)
CT - *DEVELOP- MENT AND LAND COMMISSION THOMAS WYNDHAM (P. 57-70)
CT - *PLAN-MAKING PRO- CESS AND STRUCTURE OF URBAN FORM DERBYSHIRE ANDREW (P. 71-94)
CT - AGENCIES FOR URBAN DEVELOPMENT THOMAS WYNDHAM (P. 95-100)
CT - LOCATION OF INDUSTRY JAMES JOHN R (P. 101-108)
CT - *TOWN PLANNING PROBLEMS IN BEIRUT SALAAM ASSEM (P. 109-120)
CT - *PLANNING EDUCATION AND TRAINING (P. 121-134)
CT - *EDUCATION FOR PLANNING IN BRITAIN COCKBURN CYNTHIA (P. 155-172)

PRECIS

309.2'62'0941 HT169.G7
Great Britain. Urban regions. Social planning$bConference proceedings
0255629

690000 $z11030$aGreat Britain$zp1030$aurban regions$z21030$asocial planning$z60030$aconference proceedings
692000 0004219 692000 0007412 043000 e-uk—— 650000 Cities and towns$xPlanning$zGreat Britain$xCongresses 651000 Great Britain $xSocial policy$xCongresses 693000 275 28765 3 DCD: 309.2'62'0942

Figure V.7. BOOKS and PRECIS Records for Book in LC Class HJ

MARC

RSN - 00069994
SNO - 1858
CCN - HJ135 H5
ME - Hicks, Ursula Kathleen (Webb) 1896-
TI - Development finance; planning and control
IM - . Clarendon Press, 1965
PY - 1965
CT - *STRATEGY FOR DEVELOPMENT IMPACT OF FINANCE (P. 1-15)
CT - *CHOICE IN PUBLIC EXPENDITURE PROGRAMME PROGRAMMES AGRICULTURE EDUCATION PUBLIC HEALTH APPLICATION OF COST BENEFIT ANALYSIS (P. 16-36)
CT - *FINANCE AND FINANCIAL INFRASTRUCTURE FINANCE FROM ABROAD AID AND LOAN DIRECT INVESTMENT CENTRAL BANKING IN DEVELOPMENT COUNTRIES (P. 37-60)
CT - *FISCAL POLICY FOR DEVELOPMENT TAXES ON OUTGOINGS IMPORT DUTIES LEVIES SALES AND TURNOVER TAXES TAX RATE ON URBAN LAND AND BUILDINGS (P. 61-83)
CT - *TAXES ON INCOMINGS MARKET AND EXPORT TAXES PERSONAL INCOME TAX GRADUATED PERSONAL TAX TAXATION OF BUSINESS PROFITS TAXES ON CAPITAL GAINS AND CAPITAL (P. 84-107)
CT - *INTERGOVERNMENTAL FISCAL AND FINANCIAL RELATIONS TAX ALLOCATION AMONG FEDERAL STATE AND LOCAL GOVERNMENTS SALES TAX AS A STATE LEVY INCOME TAX SHARING (P. 108-130)
CT - *ORGANISATION AND EXECUTION OF DEVELOPMENT PLANS (P. 131-156)
CT - *BUDGETING AND CONTROL OF EXPENDITURE ESTIMATES CONSOLIDATED FUND AND CIVIL CONTINGENCIES FUND FINANCIAL SELECT COMMITTEES OF LEGISLATURE (P. 157-182)

PRECIS

336.3
Fiscal policies HJ135
0643696

690000 $z21030$afiscal policies
692000 0390984 650000 Fiscal policy 693000 04 330272 6

Figure V.8. BOOKS and PRECIS Records for Book in LC Class NK

MARC

```
RSN - 00778522
SNO - 2466
CCN - NK5440 B6 W58
ME  - Wilson, Bill, 1926-
TI  - Nineteenth century medicine in glass, by Bill & Betty Wilson.
IM  - Amador City, Calif., Nineteenth Century Hobby & Pub. Co. , 1971
COL - 147.2p.
PY  - 1971
LCH - Medicine bottles - Catalogs
IT  - BARNES DEMAS; FOUGERA E AND S; MACK JULIUS J
IT  - NEW YORK PHARMACAL ASSOCIATION; PARK JOHN D; A AND B D SANDS
IT  - SPIEKER JOHN J; VOGELER CHARLES AND AUGUSTUS; WAKELEE H P
IT  - WEEKS AND POTTER; WRIGHT INDIAN MEDICINE CO
```

PRECIS

```
338.4'3'7488                                              NK5440.B6
British antique glass bottles. Prices
0792039

690000 $z11030$abottles$iglass$iantique$iBritish$zp1030$aprices
692000 0116149  692000 0149020  692000 0011835  043000 e-uk——
650000 Bottles, British$xPrices  693000 905447 00 x
```

Figure V.9. BOOKS and PRECIS Records for Book in LC Class PN

MARC

```
RSN - 00845059
SNO - 1972
CCN - PN1998 A2 P48
ME  - Phillips, Gene D.
TI  - The movie makers: artists in an industry.
IM  - Chicago, Nelson-Hall Co., c1973
COL - 249p.
PY  - 1973
LCH - Moving-picture producers and directors - United States
LCH - Moving-picture producers and directors - Great Britain
IT  - *CHAPLIN CHARLIE (P. 25-43); *CUKOR GEORGE (P. 65-79)
IT  - *FORBES BRYAN (P. 187-97); GIANT (P. 89-94); GREENE GRAHAM
IT  - *HAWKS HOWARD (P. 45-62); HEPBURN KATHERINE
IT  - *HOWE JAMES WONG (P. 9-19); *KUBRICK STANLEY (P. 115-29)
IT  - LEAN DAVID (P. 151-57 159-63); *LOSEY JOSEPH (P. 167-82)
IT  - PINTER HAROLD (P. 173-77); *REED SIR CAROL (P. 135-48)
IT  - *RUSSELL KEN (P. 215-31); *SCHLESINGER JOHN (P. 201-13)
IT  - *STEVENS GEORGE (P. 83-95); *ZINNEMANN FRED (P. 99-112)
```

PRECIS

```
791.43'0233'0924                                          PN1998.A3C8
American cinema films. Directing. Cukor, George
0774901

690000 $z11030$acinema films$iAmerican$z21030$adirecting$z20020$a
$z31030$cCukor, George
692000 0116748x  692000 0001152x  043000 n-us——  600010 Cukor$hGeorge
693000 936 09942 x
```

C. Book Publishers - Improving Subject Access to Books

The subject descriptions we added to MARC records depend for their content on what publishers do when they prepare the book for publication. We decided to see how "good" or "bad" the indexes were in the books in our sample. A special study was made of approximately 100 titles in our collection, divided between social science and humanities fields. The full report is to be published in 1978 in The Indexer. The paper, written by B. Gratch, B. Settel, and P. Atherton, is entitled "Characteristics of Book Indexes for Subject Retrieval in the Humanities and Social Sciences."

An executive summary of our findings is included here:

> The characteristics of indexes in 113 books in nine disciplines of the humanities and social sciences have been measured, analyzed, and compared to the standards and guidelines for indexes established by the American Standards Institute and the British Standards Institution. These books were taken from a representative sample of English language monographs in these subject fields which had been selected for the Subject Access Project. Categories of analysis include: statistics on the number of index pages, lines per index page, and indexing density; arrangement of index; scope of index; style and format of index headings and subheadings; type and use of locators; type and use of control devices; and the physical appearance of indexes.
>
> The findings reveal some serious inadequacies of book indexes for subject retrieval. Among the most significant findings are: 1) only 55% of the books from which this study's sample was drawn possessed any index at all; 2) 47% of the headings tallied from the second page of these subject indexes were personal names or titles of works of art; 3) 91% of this study's sample lacked an introductory note to explain scope or features of the index; 4) inconsistent policies for indexing front, back and illustrative matter were revealed; 5) 60% of the sample contained index entries having 10 or more undifferentiated locators; 6) 41% of the sample had neither "see" nor "see also" references and 57% had no multiple entries for a multi-term entry.
>
> Recommendations about index improvement in books are given.

Time did not permit a distribution of our findings to publishers, with a follow-up to check on their interest in our project. We did have time to determine that our BOOKS data base was made up of publishers from the following countries:

USA 64%, United Kingdom 34%, Canada .5%, other countries 1.5%.

Personal contact was made to two publishers (Bowker and Macmillan). Excerpts of our letter to them follow, with an example of a Collier-Macmillan book in the BOOKS format.

> I feel that the key to greater subject access to library book collections rests with publishers. The books you produce provide the subject descriptions we can use for our augmented online catalogs of the future. The contents pages and indexes of the book itself can supply the information from which subject descriptions in library catalogs can be made. This is what our project has done -- to show librarians, library users, and publishers how an improved library catalog can provide greater access.
>
> The example enclosed with this letter shows what we did with a Macmillan book. Following our rules for selection, we chose entries from the contents and/or index. We have compared these subject descriptions with abstracts in abstracting services like Psychological Abstracts, with PRECIS strings from BNB, and with Library of Congress subject headings. We have found through controlled tests that our input is useful for online subject searching. The Library of Congress, National Library of Canada, OCLC, and many research libraries are interested in these developments at this particular time when important decisions are being made about closing card catalogs, changing subject analysis schemes, etc.
>
> It is possible that the library world will buy the idea of subject descriptions but not buy that they should come from contents pages and/or back-of-the book indexes. This is a difficult decision and one on which I myself am somewhat ambivalent. As we proceeded on our project, developing subject descriptions for some 2,000 books in ten fields of the humanities and social sciences, we noticed what no one can ignore: contents pages and indexes are of varying quality. Few indexes conform to ANSI, BSI, or University of Chicago standards. The variety of styles and formats caused us to develop a manual of rules for selection which had to be quite detailed because of this variety. Nevertheless, we feel this effort could lead to something fruitful if publishers were willing to give more attention to the by-product use of these two parts of the book. If library users can search and find Etzioni's book because they thought of such words as democracy, leadership, or authoritarian government, I think we will all be more satisfied with our information systems. As it is, only headings such as political sociology are available for Etzioni's book in our catalogs now and these headings have hundreds of titles listed in alphabetic order by author with no discrimination possible. You could not find "leadership in democracy" or something similar in our library catalog today or tomorrow!
>
> Is there something that we can do cooperatively?

Figure V.10. Sample Record of BOOKS Entry

Typical Library Catalog entry

RSN - 00391905
SNO - 1743
CCN - HM101 E77
ME - Etzioni, Amitai
TI - The active society: a theory of societal and political processes.
IM - London, Collier-Macmillan, 1968
COL - 698p.
PY - 1968
LCH - Social action; Sociology; Political sociology

Subject Access Project (SAP) suggested addition for subject description

IT - ACTION AUTONOMY (P. 111-116). ALIENATION (P. 373-381 617-622 FF)
IT - ASSETS (P. 323-329 FF); *AUTHORITARIAN GOVERNMENT (P. 507-523)
IT - AUTONOMY : BALANCE OF (P. 116-120) ; IN RELATION TO CONTROL (P. 111-116); BRITAIN GREAT (P. 374-378)
IT - *CHANGE SOCIETAL (P. 387-421); CHINA; COERCIVE POWER (P. 370-375)
IT - COLLECTIVITIES (P. 436-443); *COLLECTIVITY (P. 99-103 435-451)
IT - *COMMITMENT (P. 555-565FF)
IT - *COMMUNICATION RELATION TO POWER (P. 333-342)
IT - COMMUNITY OF ASSUMPTIONS (P. 177-182)
IT - COMPLIANCE TRENDS OF (P. 375-381)
IT - *COMPLIANCE PATTERNS RELATION TO SOCIETAL GOALS (P. 370-381)
IT - CONFLICT (P. 586-592). *CONSCIOUSNESS (P. 223-244)
IT - *CONSENSUS (P. 466-494) ; POLITICAL (P. 471-475)
IT - CONSENSUS BUILDING (P. 432-436FF); CONSENSUS FORMATION
IT - *CONTEXTUATING ORIENTATIONS (P. 157-168) ; CHANGES IN (P. 157-168)
IT - *CONTROL (P. 388-399 422- 446) ; RELATION TO POWER (P. 334-338)
IT - *CONTROL CONSENSUS ARTICULATION MECHANISMS FOR (P. 484-494)
IT - CONTROLLING OVERLAYER (P. 362-366)
IT - CONVERSION PATTERN (P. 323-327)
IT - *COST (P. 155-168) ; OF ALTERING KNOWLEDGE CONTEXTS (P. 157-168)
IT - *CYBERNETIC FACTORS IN SOCIETAL GUIDANCE (P. 132-273)
IT - *DECISION MAKING (P. 249-306); DEMOCRACY (P. 506-511)
IT - ELITE COUNTRIES (P. 552-557); ELITES INTELLECTUAL (P. 182- 189)
IT - *EQUALITY (P. 517-535); EXPERT ELITE (P. 182-189); FRANCE
IT - FUNCTIONAL ANALYSIS (P. 79-83 135-143)
IT - FUNDAMENTAL CRITICISM (P. 181- 186)
IT - *INAUTHENTICITY (P. 633-648FF) ; OF INSTITUTIONS (P. 634-647)
IT - INCREMENTALISM (P. 268-273); INNOVATION (P. 239-244); INTEGRATION
IT - *KNOWLEDGE (P. 132-151 155-168 172-189) ; IN DECISION MAKING (P. 301- 305); *LEADERSHIP (P. 337-354); *MALLEABILITY (P. 21-30)
IT - *MIXED SCANNING (P. 283-306)
IT - *MOBILIZATION (P. 387-422) ; EXTERNAL (P. 412-418) ; INTERNAL (P. 401-411) ; SUPRA UNIT RELATIONS (P. 414-418)
IT - *MODERN SOCIETIES (P. 432-455) ; DIFFERENCES FROM POST MODERN SOCIETIES PREFACE (P. 422-446) ; SIMILARITIES WITH POST MODERN SOCIETIES (P. 433-441); PLANNING AGENCIES (P. 487-492)
IT - POLITICAL ELITE (P. 182-189)
IT - *POST MODERN SOCIETY PREFACE (P. 432-455)
IT - *POWER (P. 172-189 350-381) ; AS A SOCIETAL FORCE (P. 313-342) ; IN DECISION MAKING (P. 301-305) ; PERSUASIVE (P. 370-375FF) ; UTILITARIAN (P. 370-377FF); PROJECTS (P. 647- 652)
IT - RATIONALITY INSTRUMENTAL (P. 254-262FF)
IT - *RESPONSIVENESS (P. 503- 526); *RIGIDITY (P. 506-518)
IT - *SOCIETAL ACTION (P. 223-244) ; LANGUAGE OF (P. 70-74)
IT - *SOCIETAL CONTEXTS (P. 157-168)
IT - SOCIETAL GUIDANCE OF KNOWLEDGE (P. 207-213)
IT - *SOCIETAL KNOWLEDGE DISTRIBUTION OF (P. 197-214) ; REALLOCATION OF (P. 197-214); SOVIET UNION; SUB COLLECTIVITIES (P. 447-455)
IT - SYNTHESIS (P. 143-148); SYSTEM ANALYSIS (P. 310-314)
IT - *THEORY OF ACTION (P. 21-36)
IT - *THEORY OF SOCIETAL GUIDANCE (P. 94-125) ; FUNCTIONAL CONCEPTIONS IN (P. 79-83) ; GENETIC CONCEPTIONS IN (P. 79- 83)
IT - TOTALITARIAN SOCIETIES; TRANSFORMATION (P. 239-243 327-331)
IT - TRIBALISM (P. 602-607); UNIFICATION (P. 556-564 596-600)
IT - *UNITED STATES MOBILIZATION IN (P. 404-540)
IT - UNITED STATES AS A SUPER POWER

At this writing there has been no response to these letters.

D. Subject Descriptions in Abstracting and Indexing Services

When the Subject Access Project began we made a concerted effort to choose subject fields which were not adequately covered by existing online data bases -- that is, in all but one case, Psychology. We wanted one field where we could compare book coverage and treatment in an online data base. Sociological Abstracts had stopped covering books in 1972 and other online data bases in the social sciences and humanities were just beginning to appear in early 1976 when we began our work.

Time did not permit an exhaustive comparative study, but a quick check showed that BOOKS contained seventeen books published between 1973-1975, which were in an online version of Psychological Abstracts. Five of these books were collections of selected readings, the kind of book that gets the standard LCSH subheading: "Addresses, essays, and lectures." One book was a handbook, another an introductory textbook. As chance would have it, seventeen different publishers were represented.

We made no analysis, but merely put the Psychological Abstracts entry next to the BOOKS record (see the following figures). These were sent to the Editor of Psychological Abstracts and to the Executive Secretary of NFAIS. Conversations were cordial when we met in December, 1977, and a tentative agreement was reached to collaborate if the Subject Access Project went into a second phase.

Figure V.11. Sample Records for Psychology Books

in BOOKS and Psychological Abstracts

Psychology Book #1: Women and Sex

BOOKS Record

RSN - 00784957
SNO - 1563
CCN - BF692 S24
ME - Schaefer, Leah Cahan, 1920-
TI - Women and sex; sexual experiences and reactions of a group of thirty women as told to a female psychotherapist.
IM - New York, Pantheon Books, 1973
COL - 269p.
PY - 1973
LCH - Sex (Psychology); Woman - Psychology
CT - FINDINGS (P. 17-22)
CT - *EARLY SEX MEMORIES (P. 23-48) ; CHILDHOOD SEX PLAY (P. 39-43)
CT - *EARLY SEX EDUCATION (P. 49-66)
CT - *ADOLESCENCE MENARCHE AND RELATED EXPERIENCES (P. 67-86)
CT - *SELF-STIMULATION MASTURBATION (P. 87-106) ; ANXIETY GUILT DENIAL (P. 93-101)
CT - *INITIAL INTERCOURSE (P. 107-130) ; INITIAL INTERCOURSE PREMARITAL (P. 100-113) ; EXPECTATIONS (P. 116-120)
CT - *ORGASM (P. 131-158) ; ORGASM CLITORAL VAGINAL OTHER (P. 137-142)
CT - *INTERVIEW JULIA (P. 159-224); FEMALES AND SEXUALITY (P. 232-238)

Psychological Abstracts Record

9

AN 7039 51-4.
AU SCHAEFER, LEAH C.
TI WOMEN AND SEX: SEXUAL EXPERIENCES AND REACTIONS OF A GROUP OF THIRTY WOMEN AS TOLD TO A FEMALE PSYCHOTHERAPIST.
SO NEW YORK, N.Y. PANTHEON, 1973. XIV, 269 P. $8.95.
LG EN.
YR 73.
CC 10.
PT 01.
DF BOOK HUMAN-FEMALES PSYCHOSEXUAL-BEHAVIOR.
ID SEXUAL EXPERIENCES & REACTIONS TOLD TO FEMALE PSYCHOTHERAPIST, HUMAN FEMALES, BOOK.

Figure V.11. (cont.)

Psychology Book #2: Jean Piaget, the Man and his Ideas

BOOKS Record

RSN - 00830161
SNO - 1627
CCN - BF723 C5 E9
ME - Evans, Richard Isadore, 1922-
TI - Jean Piaget; the man and his ideas by Richard I. Evans. Translated by Eleanor Duckworth.
IM - New York, E.P. Dutton, 1973
COL - 189p.
SER - Dialogues with notable contributors to personality theory, v. 7
PY - 1973
LCH - Cognition (Child psychology); Psychology; Piaget, Jean, 1896-
IT - BEHAVIOR; CONCRETE OPERATIONAL PERIOD IN CHILD; CONSERVATION
IT - FORMAL OPERATIONAL PERIOD IN CHILD; FREUD SIGMUND
IT - GENEVA SWITZERLAND; *INTELLIGENCE PIAGET'S THEORY OF (P. 78-96)
IT - LANGUAGE; LEARNING; LOGIC; MEASURING YOUNG MINDS ELKIND; MOLLUSKS
IT - PERCEPTION
IT - *PIAGET JEAN ; AUTOBIOGRAPHY OF (P. 105-143) ; BIBLIOGRAPHY OF (P. 143-175) ; CHILDHOOD AND ADOLESCENCE OF (P. 105-111) ; EARLY THOUGHT OF (P. 112-116) ; EARLY WORK OF (P. 117-121) ; ON GENETIC EPISTEMOLOGY ; INTELLECTUAL DEVELOPMENT OF (P. 105-130) ; ON KNOWLEDGE ; ON PRINCIPLES OF MENTAL GROWTH ; RESEARCH OF ; ON ROOTS OF KNOWLEDGE (P. 78-96) ; SCIENTIFIC PUBLICATIONS OF (P. 143-175)
IT - PREOPERATIONAL STAGE IN CHILD TWO SUBSTAGES OF (P. 86-90)
IT - REVERSIBILITY; SCHEMES SUBSCHEMES
IT - SENSORY MOTOR PERIOD IN CHILD SIX SUBSTAGES OF (P. 80-85) ; SKINNER B F; STRUCTURES; SYMBOLIC SEMIOTIC REASONING
IT - UNITED STATES OF AMERICA

Psychological Abstracts Record

13
AN 11 51-1.
AU EVANS, RICHARD I.
IN U. HOUSTON.
TI JEAN PIAGET: THE MAN AND HIS IDEAS.
SO NEW YORK, N.Y. E. P. DUTTON, 1973. LXI, 189 P. $8.95(CLOTH), $2.95(PAPER).
LG EN.
YR 73.
CC 01.
PT 01.
DE BIOGRAPHY PIAGET-JEAN BOOK.
AB PRESENTS PORTIONS OF A CONVERSATION WITH PIAGET WHICH INCLUDE DISCUSSIONS OF HIS THEORIES, HOW THEY WERE FORMULATED, AND HIS VIEWS ON A VARIETY OF PSYCHOLOGICAL ISSUES (E. G. INTELLIGENCE TESTING, PSYCHOANALYSIS, AND B. F. SKINNER). A PORTION OF PIAGET S AUTOBIOGRAPHY AND AN ESSAY BY HIM ON GENETIC EPISTEMOLOGY ARE INCLUDED ALONG WITH CRITICAL SUMMARIES OF HIS WORK.
ID PIAGET/J. BIOGRAPHY & THEORETICAL DISCUSSION, BOOK.

E. Library Networks -- Improving Subject Access to Books

OCLC, BALLOTS, SCORPIO (Library of Congress), and UTLAS had all announced some plans for subject access when our project was getting underway in 1976.

OCLC had awarded a contract to Battelle Memorial Institute to use BASIS (an online retrieval system) with a portion of the OCLC data base (NEMIS records).

BALLOTS had term access to words in the title.

SCORPIO had a subject retrieval component for access to LCSH in the lccc, bibl, and other files at the Library of Congress.

UTLAS had an online Call Number Query system, providing subject access via the classification number.

None of these cooperative, shared cataloging systems was augmenting the records in their files or running retrieval tests of the kind we ran and reported in section IV of this report.

We kept all groups informed of our progress, gave demonstrations at L.C., University of Toronto, OCLC, and talked to personnel from BALLOTS. We were encouraged by their interest. Dr. James Rush at OCLC backed up our letter to publishers with a letter of his own. He also analyzed some 20,000 OCLC records and found that fewer than 5% had any "contents" note (a near equivalent to our subject descriptions). He expressed an interest in getting a copy of the BOOKS data base. Using the OCLC terminal at the School of Information Studies we began a search of OCLC to see how many of the BOOKS records were on OCLC. We estimate over 40%, but our check was aborted because of the press of other projects.

Everyone we contacted agreed that such an augmentation of the MARC record was probably a step in the right direction and that a massive cooperative project via their networks would have to be launched if existing catalog records were to be augmented. No one library could or should make the effort alone, not even the Library of Congress for current publications.

The end of our current funding prevented further exploration of this aspect of the project.

PART VI. WHERE DO WE GO FROM HERE?

"The effort to maintain one's place on a descending moving staircase is not conducive to innovation."

-- H.C. Brookfield

A. What was Learned from the Subject Access Project?

In our original proposal for this project we stated that we wanted to find out about the following:

1) Availability of suitable information in books to produce augmented subject descriptions.
2) Cost of inputting these subject descriptions in machine-readable form.
3) Cost of computer storage of a BOOKS data base (MARC-like records augmented with subject descriptions).
4) Cost of online searching of a BOOKS data base.
5) Benefits derived from online searching of BOOKS.

In summary, we found that:

1) Suitable information which met our selection criteria was available in 90% of the books we systematically selected from the University of Toronto Libraries. Two hundred fifty-three books had to be rejected because they contained insufficient information on their contents pages or had no contents page and had no index. A large part of these 253 rejected books came from one part of the collection on post confederation Ontario history.

Suitable information was available to select subject descriptions which averaged about 300 words per title. The subject description we devised was created following selection rules. We had a quota system for each title, roughly 30 entries per book (i.e., an entry was a group of terms in a contextual phrase such as a chapter heading or index phrase).

The information (terms and phrases) in the subject descriptions did produce a useful vocabulary for online searching, with half the terms appearing in the

subject descriptions for two or more books. Four thousand of the terms appeared in subject descriptions for 6 or more books. About 1,600 of these subject description terms matched with terms found in the Library of Congress subject heading for the books in the file. There were thousands more subject terms from these descriptions than from either the title or subject headings.

2) The cost of selecting and inputting these subject descriptions was about $5.00/title (including overhead) with most of the time and costs being the keyboarding, proofreading, editing and computer processing personnel time. The selection of the subject description took, on the average, 12 minutes per title.

3) At the System Development Corporation the cost of computer storage of our file was about $.30 per record/month. Initial start-up costs were about $1.00 per record. Online use of the file was set at $35/hour with $.08 for each offline print. Updates to the file were not made, but were estimated at approximately $.30 per record. The file was accessible 12 hours per day, 5 days per week via telecommunications ($8/hour).

4) Costs of the average sign-on during the BOOKS demonstration period were $14.00 for twenty minutes. During the controlled test period where actual queries were being searched, the average search required 8 minutes online for a MARC record search and 4 minutes online for a BOOKS record search. The offline prints averaged about six per search. These figures suggest that the average search would cost about $5.00 for MARC searching and $2.50 for BOOKS searching.

5) The benefits derived from online searching of BOOKS included:

   a) Greater access to the books with relevant information.

   b) Greater precision, insuring fewer non-relevant items in the search output.

   c) Less costly online searching than MARC searching.

   d) The ability to answer some queries impossible using today's catalog information.

During controlled tests the present-day catalog record (MARC) and the BOOKS record were searched following a randomized block, repeated measures experimental design. The comparison of the results from 90 searches showed that

a) MARC retrieved 56 relevant items while BOOKS retrieved 130 relevant items. Only 14 relevant items were retrieved by both MARC and BOOKS searches.

b) The average precision of MARC searches was 35%, BOOKS searches was 46%.

c) The average MARC search took twice as long online.

This comparison did not change when either searches for humanities or social science were studied separately.

The two search results for a query could include matches, i.e., MARC and BOOKS searches retrieved the same item. This happened in 279 queries, with a total of 80 items. No query had more than 3 matches. The relevance assessments agreed in only 28 of these cases.

The comments from others who searched the BOOKS data base online included statements of benefits: able to find some items which would be impossible to locate with L.C. subject headings, easy to use, greater access to selections in books of readings.

B. What Should Happen Next to Improve Subject Access?

From the experience gained during the Subject Access Project, certain things became clearer:

1) The searcher of an online library catalog record like BOOKS needs vocabulary aids online. To think of all synonyms and all subject heading alternatives is a great burden. If LCSH were online as a searching aid, along with a version of the Roget's Thesaurus, the searcher could choose a term and then make selections from the display rather than keying in all the possible synonyms or

"indexonyms," which would retrieve relevant items.

2) If subject descriptions like those in BOOKS are developed for the world's library collections, it should be a cooperative effort with further investigation of alternatives to SAP forms of subject descriptions. The length of the description and the rules for selection need to be reviewed critically. The quota system, as we developed it, is probably inadequate and difficult to apply.

As subject descriptions are merely extracts from each book, some effort must be made to improve the contents page and indexes in books so that these extracts will be more content-bearing.

3) The display of subject descriptions online needs to be improved. In searching, we could not locate easily the matched term or phrase in a long subject description. Computer software or reprocessing of the file needs to be done to highlight where the match of search terms or phrases occurs in the text of subject description for each item. (The LEXIS system has this feature for their legal files.)

C. Final Remarks

In Gregory Bateson's Steps to an Ecology of Mind (1971) there is an apt quote from Laing, who noted that:

> "The obvious can be very difficult for people to see. That is because people are self-correct systems. They are self-corrective against disturbance, and if the obvious is not of a kind they can easily assimilate without internal disturbance, their self-corrective mechanisms work to sidetrack it, to hide it... Disturbing information can be framed like a pearl so that it doesn't make a nuisance of itself; and this will be done, according to the understanding of the system itself of what would be a nuisance. This too -- the premise regarding what would cause disturbance -- is something which is learned and then becomes perpetuated or conserved.

The promising results of our project prompt us to suggest that some effort needs to be launched by a responsible organization if we are ever to get off the dead center of poor subject access to our rich library collections. Either the

Library of Congress, the National Library of Canada, the National Federation of Abstracting and Indexing Services or the American Association of Publishers needs to review the present scene and begin to work toward improvements. The published work of Hudson, Lipetz, Bates, McClure and others points to the dire need for greater subject access. Our investment in books is partially wasted and underused if access is only available to those who come to the library catalog to search for known items.

Interestingly, we in the United States and Canada must look to Europe for avant garde developments in this area, for we have no such national or international developments on our own soil.

a) The Bath University Programme of Catalogue Research has been in existence since 1 September, 1977, funded for three years by a grant from the British Library (Research & Development Department). One of their first projects was an investigation of the provision of subject access to Library Catalogues through Keyword Indexes (SALCKIN).

b) Research at Lund University and Chalmers University in Sweden, funded by the Swedish government, is comparing the indexing of 400 titles in the field of environment and energy. The two systems being compared are PRECIS and our subject descriptions in Swedish!

c) European Common Market committees are working on multilingual projects with indexing and abstracting studies before the EURONET system gets underway.

The research and development staff at OCLC and BALLOTS, as well as at the Library of Congress and the National Library of Canada showed great interest in our work, but it isn't clear to anyone who should take the initiative for the next step as network priorities are set by consensus.

The need is great for a redundant but carefully controlled subject access system, according to Marcia Bates in her May, 1977 J. ASIS article (p. 161-169).

The present system (LCSH) is controlled but not redundant, witness our analysis of L.C. subject headings for the social science and humanities books in our BOOKS data base.

The system we developed of "subject descriptions" is not controlled.

It would appear that some combination of the two would be a fruitful way to proceed. Dr. Bates goes on to say:

> "With automation...we can now use a subject approach...that allows the naive user, unconscious of and uninterested in the complexities of synonymy and vocabulary control, to blunder on to desired subjects to be guided, without realizing it, by a redundant but carefully controlled subject access system.

Free text computer searching online is here to stay. Searchers online need assistance. Our next efforts should be to combine the best of the past with the promising features offered by new computer technology. Vocabulary aids for both the controlled portions of catalog records and the uncontrolled portions like the subject descriptions must be an integrated part of the online library catalogs of the future.

Thoreau Said, "The book is the most treasured wealth of the world." This statement is part of the mosaic on the inside wall of the entrance to the Library of Congress. Are we the bankers and brokers of that wealth or are we the misers? S. R. Ranganathan, more than 40 years ago, said, "Books are for use." We must try to understand all the implications of these phrases as we move into the future of online catalog searching.

APPENDIX I

Bibliography and Mediagraphy of the Subject Access Project

Publications

1. Progress Reports to the Council on Library Resources (available through ERIC).

2. Occasional Newsletter series, 4 numbers (out of print).

3. Subject Description of BOOKS; A Manual of procedures for augmenting subject descriptions in library catalogs. Edited by Barbara Settel. (Syracuse University, School of Information Studies, Research Study #3, 1977. $5.00).

4. BOOKS Are For Use; A user guide for the BOOKS File on SDC/ORBIT. Prepared by Jeffrey Simon and Pauline Atherton, September, 1977, 12p. (out of print but included in appendix of final report of project).

5. "Characteristics of Book Indexes for Subject Retrieval in the Humanities and Social Sciences," by Bonnie Gratch, Barbara Settel, and Pauline Atherton. (to be published in The Indexer, 1978).

6. "Improved Subject Access to Books in On-Line Library Catalogs," by Pauline Atherton (to be published in On-Line Review, 1978).

Media

1. Audiotape of P. Atherton's talk on Subject Access Project, North Carolina State University, Durham, North Carolina, May, 1977.

2. Audiotape of J. Simon's talk at NYLA, November, 1977.

3. Videotape, "BOOKS Are For Use -- Online Searching." February, 1978.

The BOOKS Data Base
Examples of Records from Humanities and Social Sciences

These examples are assembled here to exhibit the range of differences in subject description across several fields of knowledge and several "types of books."

The treatment of subject analysis is seen by looking at the part of each record coded LCH, i.e., Library of Congress Subject Heading.

The subject description, which comes from the book itself may be in two parts, that selected from the Table of Contents is coded CT (i.e., Contents Term) and that selected from the book's index is coded IT (i.e., Index Term).

The array of examples shows books published from 1947 to the present, by British, Canadian, and American publishers, commercial and university presses, books by one author or many, festschrift, and histories, translations, theory books and treatises. In all, the collection appears to be very representative of the content of non-serial library book collections.

Arrangement of examples is by call number (CCN). The meaning of the first letters within the L.C. classification number is explained below for ease of browsing through this set of examples.

BC Logic
BF Psychology
BH Aesthetics
BJ Ethics
DE Ancient History
DF Ancient Civilizations
F Post-Confederation Ontario (Canada) History
GN Anthropology
HJ Public Finance
HM Sociology
HT Urban and Regional Planning
NB Sculpture
NE Print Media
NK Decorative Arts
PN Drama, Film, Television

The wealth of additional words for description and access which the CT and IT fields bring to the record is immediately apparent. Oftentimes the CT and IT entries look very much like "subject headings," but more often than not they are only descriptive phrases, names of persons and places, artifacts or concepts. Their value comes in their ability to describe the book's content in more detail and identify for the searcher if the library has any book which contains some information, no matter how little, on the particular topic, person, or place of interest to him/her.

Perhaps the best example of this is the record for PN1655 (CCN): Tragedy and the theory of drama. If a library user was looking for a book that contained a discussion of Tragedy, contrasting Agamemnon and King Lear, she/he would be hard put to find this book from scanning the cards in a traditional (or online) catalog which contained the existing records for our book collections. He could get as far as "tragedy" by searching under title or subject, but he would never know that this book by Olson is a "hit."

By using the online data base BOOKS on ORBIT, the searcher could do a Boolean search of the words "tragedy" and "Agamemnon" and "Lear." This book would be a "hit." Such a search is shown in the appendix entitled "Samples of Searches." Actually three books were retrieved, all with Tragedy as a subject heading (one with subdivision). If the searcher had gone to the "card catalog" for this book collection she/he would have found eight books to choose from (see appendix for complete list of all LCSH headings in BOOKS data base).

An archival tape of the BOOKS data base exists at Syracuse University, in the possession of Professor Atherton. It is in the print image format of the SDC/ORBIT program. A copy of a portion of that tape is shown here to show how the "page" is formatted and how the records are "marked off." Inquiries about the use of this tape for study purposes should be made to Professor Atherton.

Figure A.II.1 Portion of BOOKS Tape in Print Image Format

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RSN - 00618988
SNO - 2187
CCN - PN2297 D6 P3
ME  - PASOLLI, ROBERT
TI  - A BOOK ON THE OPEN THEATRE.
IM  - INDIANAPOLIS, BOBBS-MERRILL, 1970
CO  - 127P.
PY  - 1970
LCH - OPEN THEATRE
CT  - SOUND AND MOVEMENT (P. 5-13)
CT  - *WORKSHOP AND ENSEMBLE (P. 14-36) ; CONDUCTOR (P. 27-31)
CT  - *WORKSHOP AND PERFORMANCE (P. 37-57)
CT  - *EXPANSION AND STRUGGLE (P. 58-89)
CT  - *SUCCESS AND FAILURE (P. 90-110) ; PHRASE (P. 90-96) ; FACE
                                                        PAGE 57
                        BOOKS INDEX

      CONVERSATION (P. 102-110)

RSN - 00618531
SNO - 2399
CCN - NK6 D9
ME  - OVERY, PAUL, 1940-
TI  - DE STIJL.
IM  - LONDON, STUDIO VISTA, 1969
CO  - 167P.
SER - STUDIO VISTA/DUTTON PICTUREBACK
PY  - 1969
LCH - DE STIJL (PERIODICAL)
IT  - DADAISM; DE STIJL MAGAZINE (P. 10-14)
IT  - *DOESBURG THEO VAN (P. 10-14 99-114 148-158)
IT  - KIEFHOEK HOUSING OUD (P. 140-146); LECK BART VAN DER
IT  - MONDRIAN PIET; OUD J J P; RED BLUE CHAIR RIETVELD
IT  - *RIETVELD GERRIT (P. 114-133)
IT  - SCHRODERHOUSE RIETVELD (P. 118-126); SPACE; STYLE (P. 10-14)

RSN - 00614387
SNO - 2074
CCN - PN1995 F28
ME  - FARBER, MANNY
TI  - NEGATIVE SPACE; MANNY FARBER ON THE MOVIES.
IM  - NEW YORK, PRAEGER, 1971
CO  - 298P.
SER - PRAEGER FILM BOOKS
PY  - 1971
LCH - MOVING-PICTURES - REVIEWS
CT  - *UNDERGROUND FILMS (P. 12-24); HAWKS HOWARD (P. 25-31)
CT  - HUSTON JOHN (P. 32-37); *THE GIMP (P. 71-83)
CT  - *STURGES PRESTON (P. 89-104); PARADE FLOATS (P. 108-112)
CT  - FULLER SAMUEL (P. 129-133)
CT  - *WHITE ELEPHANT ART VERSUS TERMITE ART (P. 134-144)
CT  - *DECLINE OF THE ACTOR (P. 145-154)
CT  - CARTOONED HIP ACTING (P. 155-159); LESTEROID (P. 160-164)
CT  - THE SPY (P. 170-174); HOW I WON THE WAR (P. 200-204)
CT  - *NEW YORK FILM FESTIVAL 1967-1969 (P. 225-245)
CT  - CANADIAN UNDERGROUND (P. 250-255); *GODARD JEAN LUC (P. 259-268)
CT  - LA CHINOISE AND BELLE DE JOUR (P. 269-274)
CT  - BUNUEL LUIS (P. 275-282)
1                                                       PAGE 58
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BOOKS RECORD
IN
LOGIC (BC71)

RSN - 00759652
SNO - 1030
CCN - BC71 P86
ME - Purtill, Richard L., 1931.
TI - Logic for philosophers
IM - New York, Harper & Row, 1971
COL - 419p.
SER - Sources in contemporary philosophy
PY - 1971
LCH - Logic
CT - *PROPOSITIONAL LOGIC (P. 3-46) ; OPERATORS AND CONNECTIVES (P. 4-13) ; TAUTOLOGIES CONTRADICTIONS AND CONTINGENTS (P. 14-21) ; EQUIVALENCES (P. 22-29) ; IMPLICATION (P. 30-39) ; PHILOSOPHICAL DIFFICULTIES (P. 40-44)
CT - *PROOFS AND DISPROOFS (P. 47-76) ; DIRECT PROOFS (P. 48-54) ; DISPROOFS (P. 55-59) ; CONDITIONAL PROOFS (P. 60-64) ; LOGICAL SYSTEMS (P. 65-69) ; PHILOSOPHICAL APPLICATIONS (P. 70-75)
CT - *SYLLOGISTIC LOGIC (P. 77-122) ; STANDARD FORM STATEMENTS (P. 78-85) ; IMMEDIATE INFERENCE (P. 86-96) ; SYLLOGISMS (P. 97-108) ; SORITESES AND ENTHYMEMES (P. 109-116) ; PHILOSOPHICAL APPLICATIONS (P. 117-121)
CT - *CLASS LOGIC (P. 123-154) ; SYLLOGISTIC LOGIC AS CLASS INFERENCE (P. 141-147)
CT - *PREDICATE LOGIC (P. 155-202) ; SUBJECTS PREDICATES AND QUANTIFIERS (P. 156-162) ; QUANTIFIER EQUIVALENCES AND IMPLICATIONS (P. 163-171) ; PROOFS IN PREDICATE LOGIC (P. 172-185) ; DISPROOFS IN PREDICATE LOGIC (P. 186-194)
CT - *EXTENDED PREDICATE LOGIC (P. 203-230) ; PREDICATE VARIABLES AND QUANTIFIERS (P. 204-208) ; IDENTIFY (P. 209-213) ; DEFINITE DESCRIPTIONS AND THE IOTA OPERATOR (P. 214-218) ; LAMBDA OPERATOR (P. 291-225)
CT - *PROPOSITIONAL MODAL LOGIC (P. 231-260) ; LEWIS SYSTEMS (P. 243-250) ; PHILOSOPHICAL APPLICATIONS (P. 254-259)
CT - *EXTENSIONS OF MODAL LOGIC (P. 261-291) ; QUANTIFIERS AND MODAL LOGIC (P. 262-268) ; EPISTEMIC LOGIC (P. 269-277) ; DEONTIC LOGIC (P. 278-281) ; MIXED MODALITIES (P. 282-286)
CT - *LOGIC OF ORDINARY LANGUAGE (P. 292-323) ; LOGICAL TRUTH LOGICAL FALSEHOOD AND LOGICAL NONSENSE (P. 293-298) ; EQUIVALENCE IN ORDINARY LANGUAGE (P. 299-304) ; IMPLICATION IN ORDINARY LANGUAGE (P. 305-309) ; VALID APPEALS TO ORDINARY LANGUAGE (P. 310-316)
CT - *TOOLS OF ANALYSIS (P. 324-350) ; PROBABILITY THEORY (P. 334-342) ; SCIENTIFIC INFERENCE (P. 343-347)
IT - CARROLL DIAGRAM (P. 138-146)
IT - CONNECTIVE CLASS PROPOSITIONAL (P. 5-12)
IT - DOXASTIC LOGIC (P. 273-277) ; ONTOLOGICAL ARGUMENT (P. 256-260)
IT - *PROOF (P. 47-75 172-182)

BOOKS RECORD IN PSYCHOLOGY (BF38.5)

RSN - 00810250
SNO - 1330
CCN - BF38.5 B44 1973
ME - Beloff, John
TI - Psychological sciences: a review of modern psychology.
IM - London, Crosby Lockwood Staples, 1973
COL - 361p.
PY - 1973
LCH - Psychology - Methodology
CT - *PSYCHOLOGICAL SCIENCE (P. 1-37) ; OBJECTIVES (P. 1-11) ; REJOINDERS (P. 12-21)
CT - *INTROSPECTIVE PSYCHOLOGY (P. 38-66) ; ANALYTICAL INTROSPECTION (P. 41-48) ; PHENOMENOLOGY (P. 49-61)
CT - *COMPARATIVE PSYCHOLOGY (P. 67-91) ; ANIMAL MINDS (P. 69-77) ; INSTINCT IN MAN (P. 78-87)
CT - *DIFFERENTIAL PSYCHOLOGY (P. 92-126) ; ABILITIES (P. 95-106) ; TRAITS (P. 107-118)
CT - *BEHAVIOURISTICS (P. 127-161) ; CONDITIONING (P. 128-140) ; BEHAVIOUR THERAPY (P. 141-153)
CT - *COGNITIVE PSYCHOLOGY (P. 162-209) ; SKILLS (P. 165-172) ; LANGUAGE (P. 173-185) ; CREATIVITY (P. 186-197)
CT - *SOCIAL PSYCHOLOGY (P. 210-240) ; INDIVIDUAL AND GROUP (P. 211-218) ; DISSONANCE AND OBEDIENCE (P. 219-231)
CT - *DEPTH PSYCHOLOGY (P. 241-281) ; UNCONSCIOUS (P. 243-251) ; IMPACT OF FREUD (P. 252-263) ; *PARAPSYCHOLOGY (P. 282-320)
IT - ABILITIES HUMAN HEREDITY OR ENVIRONMENT AND (P. 96-100)
IT - CONDITIONING RUSSIAN WORK ON (P. 130-134)
IT - *EXTRA SENSORY PERCEPTION (P. 298-307 PASSIM)
IT - EXTRAVERTS (P. 113-117 PASSIM) ; HYPNOTISM HYPNOSIS (P. 267-271)
IT - INTROVERTS (P. 113-117 PASSIM)
IT - MENTAL TESTS (P. 101-107) ; IQ AND (P. 188-192 PASSIM)
IT - PSI FACTOR (P. 299-307 PASSIM)
IT - PSYCHOLINGUISTICS OBJECTIONS TO CHOMSKIAN THEORY (P. 182-186)

BOOKS RECORD
IN
AESTHETICS
(BH301)

RSN - 00007244

SNO - 1083

CCN - BH301 S75 F6 1963

ME - Fowlie, Wallace, 1908-

TI - Age of surrealism

IM - Bloomington, Indiana University Press, 1963

COL - 215p.

PY - 1963

LCH - Surealism

CT - *LAUTREMONT TEMPERAMENT (P. 28-44) ; *RIMBAUD DOCTRINE (P. 45-62)

CT - *MALLARME MYTH HERODIADE (P. 63-82)

CT - *APOLLINAIRE POET (P. 83-101) ; *BRETON MANIFESTOES (P. 102-119)

CT - *COCTEAU THEATRE (P. 120-137)

CT - *ELUARD DOCTRINE ON LOVE (P. 138-156) ; *PICASSO ART (P. 157-173)

CT - *SURREALISM IN 1960 (P. 193-204)

IT - *CHANSON DU MAL AIME (P. 84-98) ; *CHANTS DE MALDOROR (P. 33-44)

IT - FREUD ; GIDE ; NADJA (P. 115-119) ; ORPHEE (P. 125-130)

IT - SANGD'UN POETE (P. 129-137)

RSN - 00007309
SNO - 1100
CCN - BJ78 R8 K713 1947

BOOKS RECORD IN ETHICS (BJ78)

ME - Kropotkin, Petr Alekseevich, kniaz', 1842-1921
TI - Ethics, origin and development, by Prince Kropotkin; authorized translation from the Russian, by Louis S. Friedland and Joseph R. Piroshnikoff.
IM - New York, Tudor Pub. Co., 1947
COL - 349p.
PY - 1947
LCH - Ethics; Ethics - History; Ethics, Evolutionary
CT - *DETERMINING BASES OF MORALITY (P. 1-18)
CT - *EVOLVING BASES OF NEW ETHICS (P. 19-31)
CT - *MORAL PRINCIPLE IN NATURE (P. 32-61)
CT - *MORAL CONCEPTIONS OF PRIMITIVE PEOPLES (P. 62-83)
CT - *MORAL TEACHINGS ANCIENT GREECE SOPHISTS SOCRATES ARISTOTLE EPICURUS (P. 84-113)
CT - *CHRISTIANITY MIDDLE AGES RENAISSANCE COPERNICUS GIORDANO BRUNO KEPLER GALILEO HUGO GROTIUS (P. 114-146)
CT - *DEVELOPMENT OF MORAL TEACHINGS IN SEVENTEENTH AND EIGHTEENTH CENTURIES CUDWORTH AND CUMBERLAND SPINOZA CLARKE HUTCHESON LIEBNITZ MONTAIGNE AND CHARRON GASSENDI BAYLE LA ROCHEFOUCAULD LA METTRIE HELVETIUS HOLBACH ENCYCLOPAEDISTS MORELLY AND MABLY MONTESQUIEU VOLTAIRE AND ROUSSEAU TURGOT AND CONDORCET (P. 147-212)
CT - *DEVELOPMENT OF MORAL TEACHINGS IN END OF EIGHTEENTH CENTURY AND BEGINNING OF NINETEENTH CENTURY MORAL TEACHINGS IN GERMANY FICHTE SCHELLING HEGEL SCHLEIERMACHER (P. 213-230)
CT - *DEVELOPMENT OF MORAL TEACHINGS NINETEENTH CENTURY MACKINTOSH AND STUART JOHN STUART MILL SCHOPENHAUER VICTOR COUSIN AND JOUFFROY AND POSITIVISM LITTRE SOCIALISM FOURIER SAINT-SIMON AND ROBERT OWEN EVOLUTIONARY ETHICS HUXLEY EGOISM AND ALTRUISM JUSTICE AND CHARITY THE STATE (P. 231-332)
IT - BACON FRANCIS (P. 180-185) ; BENTHAM JEREMY (P. 235-240)
IT - *CHRISTIANITY (P. 116-133) ; COMTE AUGUSTE (P. 248-256)
IT - DARWIN CHARLES (P. 32-38N) ; DESCARTES (P. 181-186)
IT - EPICURUS (P. 103-109) ; FEUERBACH (P. 255-259) ; GUYAU (P. 104-109)
IT - HOBBES (P. 149-155) ; HUME DAVID (P. 200-205) ; *KANT (P. 213-225)
IT - LOCKE JOHN (P. 162-168) ; PLATO (P. 90-98) ; PROUDHON (P. 267-279)
IT - SHAFTESBURY (P. 169-173) ; SMITH ADAM (P. 203-210)
IT - SPENCER HERBERT (P. 288-322) ; STOICS (P. 109-114)

BOOKS RECORD
IN
ANCIENT
CIVILIZATION
(DE89)

RSN - 00127257
SNO - 1179
CCN - DE89 A5
TI - Ancient society and institutions: studies presented to Victor Ehrenberg on his 75th birthday.
IM - Oxford, Blackwell, 1966
COL - 312p.
PY - 1966
LCH - History, Ancient - Addresses, essays, lectures
CT - BIBLIOGRAPHY OF VICTOR EHRENBERG
CT - *GOVERNMENT OF CLASSICAN SPARTA ANDREWES A (P. 1-20)
CT - *THIRD CYRENE EDICT OF AUGUSTUS ATKINSON KATHLEEN M T (P. 21-36)
CT - *ALEXANDER THE GREAT AND GREEKS OF ASIA BADIAN E (P. 37-70)
CT - *ATHENIAN SETTLEMENTS ABROAD IN FIFTH CENTURY BC BRUNT P A (P. 71-92) AESCHYLUS AND ATHENIAN POLITICS 472-456 BC DAVISON J A (P. 93-108) ; ESTATE OF PHAENIPPUS DE STE CROIX G E M (P. 109-114)
CT - *ISEGORIA IN ASSEMBLY AT ATHENS GRIFFITH G T (P. 115-138)
CT - SOLONIAN CRISIS HOPPER R J (P. 139-146)
CT - *TROY VIII AND LOKRIAN MAIDENS HUXLEY G L (P. 147-164)
CT - *LYCURGAN RHETRA JONES A H M (P. 165-176)
CT - *AFTER PROFANATION OF MYSTERIES LEWIS DAVID M (P. 177-192)
CT - *PERICLEAN IMPERIALISM MATTINGLY H B (P. 193-224)
CT - TWO HALICARNASSIANS AND A LYDIAN SCULLARD H H (P. 225-232)
CT - *ORIGIN OF DELIAN LEAGUE SEALEY RAPHAEL (P. 233-256)
CT - *ANATOMY OF FORCE IN LATE REPUBLICAN POLITICS SMITH R E (P.257-274)
CT - *VOTING PROCEDURE AT ELECTION OF STRATEGOI STAVELEY E S (P. 275-288) ; *RHIANOS HYPOTHESIS WADE GERY H T (P. 289-302)
CT - *SPARTAN ANCESTRAL CONSTITUTION IN POLYBIUS WALBANK F W (P. 303-312)

BOOKS RECORD
IN
ANCIENT HISTORY
(DF220)

RSN - 00479920
SNO - 1211
CCN - DF220 L76
ME - Luce, John Victor, 1920-
TI - The end of atlantis: new light on an old legend
IM - London, Thames & Hudson, 1969
COL - 224p.
SER - New aspects of antiquity
PY - 1969
LCH - Civilization, Mycenaean; Thera (Islands); Atlantis
CT - *PLATO'S ACCOUNT OF ATLANTIS (P. 12-40) ; HISTORICAL ELEMENT IN GREEK MYTHS AND LEGENDS (P. 13-32)
CT - *ATLANTIS AND MINOAN CRETE (P. 41-57) ; ATLANTIC LOCATION OF ATLANTIS (P. 41-45) ; MINOAN HYPOTHESIS (P. 46-56)
CT - *THERA AND ITS VOLCANO (P. 58-95) ; ISLAND OF THERA (P. 58-62) ; CHRONOLOGY OF BRONZE AGE ERUPTION (P. 63-73) ; NATURE AND INTENSITY OF THERA ERUPTION EVIDENCE OF KRAKATOA (P. 74-83)
CT - *EXCAVATIONS ON THERA (P. 96-106)
CT - *AFTER-EFFECTS AND MEMORIES OF THERA ERUPTION (P. 107-175) ; COLLAPSE OF MINOAN SEA POWER (P. 107-113) ; CONVERGENCE OF ARCHAEOLOGY AND TRADITION AT KEOS (P. 118-136) ; FLOATING ISLANDS (P. 152-170)
IT - *AKROTIRI (P. 96-105) ; ARGONAUTS (P. 148-152) ; CRETE
IT - EGYPT ANCIENT RECORDS (P. 52-56)
IT - EGYPTIANS AND MINOANS (P. 52-56) ; KNOSSOS
IT - POTTERY MARINE STYLE (PL. 21-26) ; SOLON
IT - *THERA ; POTTERY (PL. 45-49) ; SETTLEMENTS (P. 96-105)

BOOKS RECORD
IN
ONTARIO HISTORY
(F5545)

RSN - 00392141

SNO - 0113

CCN - F5545 B69 J65

ME - Johnston, Charles Murray, 1926-

TI - Brant county; a history 1784-1945.

IM - Toronto, Oxford University Press, 1967

COL - 181p.

PY - 1967

LCH - Brant Co., Ontario - History

IT - AGRICULTURE IMPLEMENTS ; BRANT JOSEPH

IT - BRANT COUNTY RELIGIOUS ACTIVITIES ; BRANTFORD

IT - BUFFALO AND BRANTFORD RAILWAY ; BURFORD TOWNSHIP ; CARRON HIRAM

IT - CHURCH OF ENGLAND ; CONSERVATIVE PARTY

IT - DEPRESSION OF 1929 (P. 137-142) ; DUNCAN SARA JEANNETTE

IT - EDUCATION ; FIRST WORLD WAR (P. 120-125)

IT - GRAND RIVER INDIAN SETTLEMENT ; INDUSTRY TECHNOLOGY

IT - JOHNSON E PAULINE ; MALCOLM ELIAKIM LIAK ; MOHWAK INDIANS

IT - NORTON JOHN ; OAKLAND TOWNSHIP ; ONONDAGA TOWNSHIP ; PARIS

IT - SIX NATIONS' CONFEDERACY OR LEAGUE ; SIX NATIONS' RESERVE

IT - UPPER CANADA ADMINISTRATION

RSN - 00670542

SNO - 0978

CCN - GN497 T87 1971

BOOKS RECORD IN ANTHROPOLOGY (GN497)

ME - Turney-High, Harry Holbert, 1899-

TI - Primitive war; its practice and concepts. Foreword by David C. Rapoport. Afterword by Harry Holbert Turney-High.

IM - Columbia, University of South Carolina Press, 1971

COL - 288p.

PY - 1971

LCH - War

CT - *PRACTICE OF PRIMITIVE WAR (P. 5-140) ; WEAPONS (P. 5-20) ; THEORY OF WAR (P. 21-38) ; FORMATIONS (P. 39-60) ; DISCIPLINE AND COMMAND (P. 61-90) ; FUNCTIONAL DESIDERATA (P. 91-106) ; INTELLIGENCE SURPRISE AND COUNTERSURPRISE (P. 107-122) ; BATTLE PLANS (P. 123-140)

CT - *CONCEPTS OF PRIMITIVE WAR (P. 141-253) ; SOCIO PSYCHOLOGICAL MOTIVES (P. 141-168) ; ECONOMIC MOTIVE (P. 169-186) ; MILITARY VALUES (P. 187-204) ; MILITARY ATTITUDES (P. 205-226) ; WAR AND ORGANIZATION OF SOCIETY (P. 227-253)

CT - *SURVIVAL AND REVIVAL OF PRIMITIVE WAR (P. 254-265)

IT - AFRICA ; DAHOMEAN ; ENEMY LIFE VALUATION OF (P. 220-226) ; EURASIA

IT - GIBEAH CAMPAIGN AGAINST (P. 32-38) ; GREAT PLAINS AMERICAN

IT - HEAD TAKING (P. 196-200)

IT - HEBREWS EARLY MILITARY OPERATIONS (P. 31-38) ; IROQUOIS ; JIBARO

IT - LAND ECONOMIC (P. 182-186) ; LIFE ATTITUDES REGARDING (P. 210-215)

IT - MELANESIA ; *METHODS TACTICAL (P. 21-38) ; OCEANIA ; OJIBWAY ; OMAHA

IT - *PLANS PRINCIPLE OF SIMPLICITY OF (P. 123-137) ; POLYNESIANS

IT - SAMOAN ; *SEX MOTIVE (P. 151-164) ; SLAVING (P. 178-182)

IT - *SOCIAL ORGANIZATION (P. 227-253) ; *SOCIOLOGY (P. 227-253)

IT - TENSION RELEASE (P. 141-145) ; *WOMEN (P. 151-164) ; ZULU

BOOKS RECORD
IN
PUBLIC FINANCE
(HJ5715)

RSN - 00070623
SNO - 1830
CCN - HJ5715 C2 D78
ME - Due, John Fitzgerald
TI - The general manufacturers sales tax in Canada.
IM - , Canadian Tax Foundation, 1951
PY - 1951
CT - *DEVELOPMENT OF THE TAX (P. 5-22)
CT - *TAX RATES AND TAX YIELD (P. 23-34)
CT - SINGLE STAGE SALES TAXES (P. 35-40)
CT - *STRUCTURE OF TAX AND PROVISIONS TO PREVENT MULTIPLE APPLICATION (P. 41-58) ; *EXEMPTIONS OF CONSUMPTION PURCHASES (P. 59-72)
CT - *SALE AND SALE PRICE FOR TAX PURPOSES (P. 73-88) ; PRICES ON DIRECT SALES TO RETAILERS AND CONSUMERS (P. 82-86)
CT - *ADMINISTRATIVE PROVISIONS ORGANIZATION AND PROCEDURES (P. 89-108)
CT - *COMPLIANCE PROBLEMS (P. 109-120) ; SALES TAX CONSIDERATIONS FOR FIRM AS A SELLER (P. 114-118)
CT - *SHIFTING PYRAMIDING AND INCIDENCE OF SALES TAX (P. 121-140) ; REACTIONS OF MANUFACTURERS TO TAX (P. 122-126) ; PRICE ADJUSTMENTS OVER LONGER PERIOD OF TIME (P. 127-131)
CT - *DISTRIBUTION OF SALES TAX BURDEN (P. 141-151)
CT - *ROLE OF SALES TAX IN DOMINION TAX STRUCTURE (P. 152-168) ; SALES TAX AS PERMANENT ELEMENT IN DOMINION TAX STRUCTURE (P. 152-161) ; INCREASES IN SALES TAX AS ANTI INFLATIONARY WEAPON (P. 162-168)
CT - *MANUFACTURERS SALES TAXES AND FEDERAL PROVINCIAL SALES TAX RELATIONSHIPS (P. 169-188)
IT - DOMINION BUREAU OF STATISTICS
IT - EQUITY OF SALES VS INCOME TAXES (P. 155-159)
IT - *EXEMPTION OF PRODUCERS' GOODS (P. 37-57)
IT - EXEMPTIONS PURCHASERS (P. 110-114)
IT - MANUFACTURERS FORM OF SALES TAX LIMITATIONS OF (P. 170-175)
IT - OLIGOPOLY SIGNIFICANCE FOR SHIFTING (P. 122-127)
IT - RETAIL SALES TAX RELATIVE ADVANTAGES OF (P. 170-176)
IT - VALUATION PROBLEMS (P. 79-87)

RSN - 00070919
SNO - 1669
CCN - HM19 T5 1961

BOOKS RECORD IN SOCIOLOGY (HM19)

ME - Timasheff, Nicholas Sergeyevitch, 1886-
TI - Sociological theory, its nature and growth.
IM - , Random House, 1961
PY - 1961
CT - *SOCIOLOGICAL THEORIES (P. 3-14)
CT - *COMTE AUGUSTE (P. 15-29) ; STATIC AND DYNAMIC SOCIOLOGY (P. 22-26) ; SPENCER HERBERT (P. 30-42)
CT - *COMPETING SCHOOLS (P. 59-130) ; SOCIAL DARWINISM (P. 59-71) ; PSYCHOLOGICAL EVOLUTIONISM (P. 72-87) ; EVOLUTIONISMS AND ORGANICISM (P. 88-96) ; EARLY ANALYTICAL SOCIOLOGY (P. 97-105) ; DURKHEIM EMILE (P. 106-118) ; RUSSIAN SUBJECTIVISM (P. 119-130)
CT - *VOGUE OF PSYCHOLOGICAL SOCIOLOGY (P. 131-190) ; DECLINE OF EVOLUTIONISM AND RISE OF NEO POSITIVISM (P. 131-140) ; COOLEY CHARLES H AND THOMAS W I (P. 141-157) ; PARETO VILFREDO (P. 158-166) ; WEBER MAX (P. 167-190)
CT - *CONTEMPORY CONVERGENCE IN SOCIOLOGICAL THEORIES (P. 191-302) ; NEO POSITIVISM (P. 191-211) / MATHEMATICAL WING OF NEO POSITIVISM (P. 199-203) ; HUMAN ECOLOGY AND SOCIOMETRY (P. 212-220) ; FUNCTIONAL APPROACH (P. 221-233) ; ANALYTICAL SOCIOLOGY (P. 234-260) / SOROKIN PITIRIM A (P. 235-241) / PARSONS TALCOTT (P. 242-249) ; PHILOSOPHICAL SCHOOLS (P. 261-276) / INSTITUTIONAL SCHOOL (P. 261-265) / PHENOMENOLOGICAL SCHOOL (P. 266-273) ; HISTORICAL SOCIOLOGY (P. 277-288) ; REVIVALS (P. 289-302) / NEO EVOLUTIONISM (P. 289-293)
CT - *MID TWENTIETH CENTURY SOCIOLOGY (P. 303-312)
IT - COLLECTIVE CONSCIENCE CONSCIOUSNESS (P. 108-113)
IT - ECONOMIC DETERMINISM EVOLUTIONISM (P. 46-50)
IT - OPERATIONAL DEFINITION (P. 195-199)

BOOKS RECORD
IN
URBAN PLANNING
(HT166)

RSN - 00872975
SNO - 0373
CCN - HT166 H43
ME - Hellman, Harold, 1927-
TI - The city in the world of the future.
IM - New York, M. Evans, 1970
COL - 186p.
PY - 1970
LCH - Cities and towns - Planning
CT - *NEW BUILDING TECHNIQUES (P. 17-33) ; *HOUSING (P. 34-48)
CT - *CITY INDOORS (P. 49-60) ; *REBUILDING CITY CENTER (P. 61-78)
CT - *PLANNING (P. 79-94) ; *NEW TOWNS NEW CITIES (P. 95-108)
CT - *UNIVERSITY CITIES (P. 109-119)
CT - *EXPERIMENTAL CITIES (P. 120-135) ; *MEGASTRUCTURES (P. 136-147)
CT - *CITIES IN SEA (P. 148-165)
IT - APARTMENTS (P. 38-43) ; CONTINENTAL SHELVES (P. 160-165)
IT - DISNEY WORLD (P. 120-126) ; DOMES (P. 3-7 52-57)
IT - *DOWNTOWN AREAS SPECIFIC PLACES GO INDOORS (P. 49-60)
IT - GAMES COMPUTERS AND (P. 90-94)
IT - LAND AND REBUILDING CITY CENTERS (P. 67-72)
IT - *MACHINE STOPS THE (P. 6[illegible]-70) ; MALL PROJECTS (P. 63-67)
IT - MODULARIZATION (P. 23-27) ; NEW YORK CITY MANHATTAN
IT - TRANSPORTATION ; *WEATHER AND INDOOR CITIES (P. 49-60 PASSIM)

BOOKS RECORD
IN
SCULPTURE
(NB80)

RSN - 00398750
SNO - 2306
CCN - NB80 F74
ME - Frankfort, Henri, 1897-1954
TI - Sculpture of the third millenium B.C. from Tell Asmar and Khafajah.
IM - Chicago, University Press, 1939
COL - 87p.
SER - The University of Chicago Oriental Institute Publications, v. 44
PY - 1939
LCH - Sculpture, Sumerian; Mesopotamia - Antiquities; Tell Asmar, Iraq
LCH - Khafaje, Iraq; Excavations (Archaeology) - Mesopotamia
CT - WORKS FROM PERIOD OF EARLY DYNASTIC II (P. 19-27)
CT - LATER REALISTIC STYLE WORKS FROM THE PERIOD OF EARLY DYNASTIC III (P. 28-33) ; STONE AND METAL IN MESOPOTAMIAN ART (P. 37-42)
CT - RELIEFS (P. 43-48) ; DRESS (P. 49-55)
CT - *CATALOGUE OF SCULPTURES (P. 56-80)
IT - BITUMEN ON STATUES OR PLAQUES ; CONICAL KILT (P. 20-24)
IT - COPPER HOARD ; COSTUME (P. 51-55) ; DEITIES (P. 45-49)
IT - FEMALE FIGURES ; GODDESSES ; HOARDS STATUES
IT - INSCRIPTIONS (P. 10-15) ; LAGASH TELLOH (P. 9-13)
IT - PLAQUES (P. 43-48) ; PRIESTS (P. 46-50) ; SHELL INLAYS
IT - SIN TEMPLE (P. 7-11) ; SINGLE SHRINE TEMPLE (P. 5-9)
IT - SQUARE TEMPLE (P. 3-11) ; STYLES DEVELOPMENT OF (P. 16-20)
IT - TEMPLE OVAL AT KHAFAJAH

BOOKS RECORD
IN
ART (NE1310)

RSN - 00607779
SNO - 2389
CCN - NE1310 B5 1960
ME - Binyon, Laurence, 1869-1943
TI - Japanese colour prints, by Laurence Binyon and J.J. O'Brien Sexton, edited by Basil Gray.
IM - Boston, Boston Book & Art Shop, 1960
COL - 230p.
PY - 1960
LCH - Ukiyoe; Color prints, Japanese; Printers' marks - Japan
LCH - Wood-engravers Japan
CT - 1658 TO 1695 (P. 25-29) ; *1695 TO 1730 (P. 30-41)
CT - *1730 TO 1764 (P. 42-52) ; *MEIWA PERIOD 1764 TO 1772 (P. 53-71)
CT - *ANYEI PERIOD 1772-1781 (P. 72-81)
CT - *TEMMEI PERIOD 1781 TO 1789 (P. 82-97)
CT - *KWANSEI PERIOD 1789 TO 1801 (P. 98-121)
CT - *KYOWA AND BUNKWA PERIODS 1801 TO 1818 (P. 122-133)
CT - *BUNSEI PERIOD 1818 TO 1830 (P. 134-144)
CT - *TEMPO AND KOKWA PERIODS 1830 TO 1848 (P. 145-154)
CT - KAYEI PERIOD TO MEIJI 1848 TO 1881 (P. 155-161) ; SECOND KIYONOBU PROBLEM (P. 166-170)
CT - *COLOUR PRINTED BOOKS AND ALBUMS (P. 176-188)
CT - TABLES TO FACILITATE READING OF DATED BOOKS AND PRINTS (P. 189-197) ; CENSORSHIP OF PRINTS (P. 198-204)
CT - ACTORS' MON (P. 205-210)
CT - YEDO PUBLISHERS' TRADE MARKS AND SEALS (P. 211-217)
IT - DAISHO NO TSUKI LONG AND SHORT MONTHS (P. 189-197)
IT - *HARUNOBU SUZUKI (P. 54-70) ; HIROSHIGE I (P. 156-160)
IT - *HOKUSAI KATSUSHIKA (P. 134-144)
IT - KIBYOSHI YELLOW BACK STORY BOOKS (P. 83-87) ; KIYOMASU (P. 48-52)
IT - KIYONAGA (P. 85-89 105-109) ; *KIYONOBU I (P. 30-41)
IT - KIYONOBU II (P. 166-170) ; *MASANOBU OKUMURA (P. 44-53)
IT - MORONOBU (P. 25-29) ; UTAMARO I KITAGAWA (P. 107-111 127-131)

BOOKS RECORD
IN
ART (NK5344)

RSN - 00127871
SNO - 2465
CCN - NK5344 N6 W6
ME - Woodforde, Christopher
TI - The Norwich school of glass-painting in the fifteenth century.
IM - , Oxford University Press, 1950
PY - 1950
CT - NORWICH GLASS PAINTERS (P. 9-15)
CT - *GLASS OF FIVE CHURCHES (P. 16-127) ; ST PETER MANCROFT NORWICH (P. 16-41) ; EAST HARLING (P. 42-54) ; NORTH TUDDENHAM (P. 55-67) ; RINGLAND (P. 68-73) ; LONG MELFORD SUFFOLK (P. 74-127)
CT - *ANGELS (P. 128-148) ; *LABOURS OF THE MONTHS (P. 149-160)
CT - *CHARACTERISTICS OF NORWICH FIFTEENTH CENTURY GLASS PAINTING (P. 161-182) ; *BLASPHEMY WINDOW AT HEYDON (P. 183-192)
CT - ENGLISH INSCRIPTIONS (P. 193-201)
CT - *DESTRUCTION AND LOSS (P. 202-214)
IT - CLOPTON FAMILY ; COLOUR IN GLASS ; DECORATIVE DESIGN AND PATTERNS
IT - *EAST HARLING CHURCH MEDIEVAL GLASS (P. 42-55)
IT - GLASS PAINTING PAINTERS (P. 9-15) ; HERALDIC GLASS ARMS
IT - *LONG MELFORD SUFFOLK CHURCH (P. 74-127) ; EAST WINDOW (P. 114-119) ; MEDIEVAL GLASS (P. 114-119)
IT - *NARRATIVE WINDOWS (P. 183-192)
IT - *NORFOLK CHURCHES MEDIEVAL ANGELS IN (P. 128-148)
IT - *NORTH TUDDENHAM MEDIEVAL GLASS (P. 55-68)
IT - *NORWICH ; ALL SAINTS' CHURCH MEDIEVAL GLASS (P. 179-186) ; ST PETER MANCROFT CHURCH (P. 16-42) / EAST WINDOW (P. 20-39) / HISTORY OF THE GLASS (P. 16-20) / MEDIEVAL GLASS (P. 20-42)
IT - SAINTS MARGARET (P. 55-59)
IT - *SUBJECT MATTER ; ANGELS (P. 128-148) / NINE ORDERS OF (P. 129-137) / SCROLLS AND (P. 137-143) ; CHRIST INFANCY (P. 23-27)

BOOKS RECORD
IN
DRAMA (PN1655)

RSN - 00183277

SNO - 2014

CCN - PN1655 055

ME - Olson, Elder, 1909-

TI - Tragedy and the theory of drama.

IM - Detroit Wayne State University Press, 1961

COL - 269p.

PY - 1961

LCH - Drama - History and criticism; Tragedy

CT - *DRAMA AND DRAMATIC ACTION (P. 3-28) ; *PLOT (P. 29-54)

CT - *INCIDENT AND CHARACTER (P. 55-86) ; REPRESENTATION AND DIALO

CT - *EMOTION FICTION AND BELIEF (P. 127-148)

CT - *DRAMATIC EFFECT AND DRAMATIC FORM (P. 149-170)

CT - *AGAMEMNON (P. 171-194) ; *KING LEAR (P. 195-216)

CT - *PHEDRE (P. 217-236) ; MODERN DRAMA AND TRAGEDY (P. 237-260)

IT - O'NEILL EUGENE MOURNING BECOMES ELECTRA (P. 237-243)

IT - *PROBABILITY AND REPRESENTATION (P. 90-100)

IT - *SHAKESPEARE WILLIAM KING LEAR (P. 195-215) ; SHAW GEORGE BERNARD

IT - WILDER THORNTON

BOOKS RECORD
IN
FILM (PN1995.9)

RSN - 00818902
SNO - 1968
CCN - PN1995.9 W4 F4 1973
ME - Fenin, George N.
TI - The Western, from silents to the seventies by George N. Fenin and William K. Everson.
IM - New York, Grossman, 1973
COL - 396p.
PY - 1973
LCH - Western films - History and criticism
CT - *WESTERN HISTORY AND HOLLYWOOD (P. 3-24)
CT - *CONTENTS AND MORAL INFLUENCE OF WESTERN (P. 25-46) ; HERO (P. 25-30)
CT - *PRIMITIVES PORTER EDWIN S AND ANDERSON BRONCHO BILLY (P. 47-60) ; GREAT TRAIN ROBBERY (P. 47-51)
CT - *GRIFFITH DAVID W AND INCE THOMAS H 1909-1913 (P. 61-74)
CT - *HART WILLIAM SURREY AND REALISM (P. 75-107) ; MY LIFE EAST AND WEST (P. 75-81) ; HELL'S HINGES (P. 82-91) ; HART'S PEAK AND DECLINE (P. 92-103) ; *MIX TOM AND SHOWMANSHIP (P. 108-121)
CT - FAIRBANKS DOUGLAS AND FORD JOHN 1913-1920 (P. 122-129)
CT - *CRUZE JAMES THE COVERED WAGON AND FORD JOHN THE IRON HORSE (P. 130-145)
CT - *THE TWENTIES (P. 146-179) ; DIRECTORS WYLER WILLIAM AND HOWARD WILLIAM K (P. 161-166) ; SOUND (P. 173-179)
CT - *WESTERN COSTUME (P. 180-194)
CT - *THIRTIES (P. 195-225) ; AUTRY GENE AND ROGERS ROY (P. 210-215)
CT - *WESTERN SERIAL (P. 226-236)
CT - *FORTIES (P. 237-265) ; HISTORICAL WESTERNS (P. 243-247) ; THE B WESTERN (P. 255-265)
CT - *POSTWAR WESTERN (P. 266-287) ; SEX (P. 266-275) ; NEUROSES (P. 276-280) ; RACIAL CONSCIENCE (P. 281-287)
CT - *STUNTMAN AND SECOND UNIT DIRECTOR (P. 288-300) ; STUNT MOVIES (P. 295-300) ; *TELEVISION (P. 301-317)
CT - *WESTERN'S INTERNATIONAL AUDIENCE AND INTERNATIONAL WESTERN (P. 318-336) ; CONTEMPORARY WESTERN (P. 337-342)
IT - BILLY THE KID ; BROWN JOHNNY MACK ; CANUTT YAKIMA ; CAREY HARRY
IT - CLARK DANIEL B (P. 116-120) ; COOPER GARY ; DEMILLE CECIL B
IT - FAIRBANKS DOUGLAS SR (P. 123-129) ; FOX WILLIAM (P. 113-117)
IT - GIBSON HOOT ; HAYDEN RUSSELL (P. 255-262) ; HIGH NOON ; JONES BUCK
IT - MAYNARD KEN ; MCCOY TIM ; SCOTT RANDOLPH ; STAGECOACH
IT - STARRETT CHARLES ; STEELE BOB ; THOMSON FRED ; TYLER TOM ; VIDOR KING
IT - WAYNE JOHN

Appendix III

List of all L.C. Subject Headings in BOOKS Data Base

(With Number of Postings)

SUMMARY FOR LCH SUBSECTION

PSTG	TEXT
1	ACADEMIC ACHIEVEMENT
9	ACTING
1	ACTING - HISTORY
1	ACTING OUT (PSYCHOLOGY) - ADDRESS
3	ACTORS
8	ACTORS - CORRESPONDENCE, REMINISC
2	ACTORS, AMERICAN
5	ACTORS, ENGLISH
1	ACTORS, ENGLISH - CORRESPONDENCE,
1	ACTORS, RUSSIAN - CORRESPONDENCE,
2	ACTRESSES
1	ACTRESSES, AMERICAN
1	ACTRESSES, AMERICAN - BIOGRAPHY
1	ACTRESSES, ENGLISH
1	ACTRESSES, ENGLISH - BIOGRAPHY
2	ADAPTABILITY (PSYCHOLOGY)
1	ADJUSTMENT (PSYCHOLOGY)
2	ADLER, ALFRED, 1870-1937
10	ADOLESCENCE
1	ADOLESCENT BOYS
3	ADOLESCENT PSYCHOLOGY
1	AERIAL PHOTOGRAPHY IN GEOGRAPHY
1	AERONAUTICS, COMMERCIAL
7	AESTHETICS
1	AESTHETICS - COLLECTED WORKS
1	AESTHETICS - COLLECTIONS
1	AESTHETICS - EARLY WORKS TO 1800
2	AESTHETICS - HISTORY
1	AESTHETICS, INDIC - ADDRESSES, ES
1	AESTHETICS, ORIENTAL
1	AESTHETICS, RUSSIAN
1	AFFILIATION (PSYCHOLOGY)
1	AFRICA, BRITISH EAST - NATIVE RAC
1	AGE AND INTELLIGENCE - ADDRESSES,
1	AGGRESSION CONGRESSES.
1	AGGRESSIVE BEHAVIOR IN ANIMALS CO
2	AGGRESSIVENESS (PSYCHOLOGY)
1	AGGRESSIVENESS (PSYCHOLOGY)-CONCE
1	AGRICULTURE - ENGLAND - HAMPSHIRE
1	AGRICULTURE, PRIMITIVE
1	AGRIPPA, MARCUS VIPSANIUS
1	AINU
1	AL-ASADA BA DI , 'ABD AL-JABBA R
1	ALEXANDER THE GREAT, 356-232 B.C.
3	ALEXANDER THE GREAT, 356-323 B.C.
1	ALGONQUIN PROVINCIAL PARK, ONTARI
1	AMAETEUR THEATRICALS
2	AMATEUR THEATRICALS
1	AMERICAN DRAMA (COMEDY) - HISTORY
1	AMERICAN DRAMA - HISTORY AND CRIT
1	AMERICAN DRAMA - 20TH CENTURY - H
1	AMERICAN INSTITUTE OF PLANNERS
1	ANCASTER TOWNSHIP, ONT.-BIOGRAPHY
1	ANCASTER TOWNSHIP, ONT.-HISTORY
1	ANTHROPO-GEOGRAPHY - NEW GUINEA (
2	ANTHROPOLOGY - ADDRESSES, ESSAYS,
1	ANTHROPOLOGY - BIBLIOGRAPHY
1	ANTHROPOLOGY - COLLECTED WORKS
1	ANTHROPOLOGY - COLLECTIONS
1	ANTHROPOLOGY - METHODOLOGY
1	ANTHROPOLOGY - STUDY AND TEACHING
2	ANTHROPOMETRY
1	ANTHROPOMETRY - INDIA - DECCAN
1	ANTHROPOMETRY - IRELAND
1	ANTONIONI, MICHELANGELO
1	ANXIETY
1	APPIA, ADOLPHE, 1862-1928
1	ARAPESH TRIBE
1	ARCHITECTURE - CAMBRIDGE, ENG. -
1	ARCHITECTURE - CHICAGO, ILL. - CO
1	ARCHITECTURE - UNITED STATES - CO
1	ARCHITECTURE - ZIMBABWE, NATIONAL
1	ARCHITECTURE, DOMESTIC - GREAT BR
1	ARCHITECTURE, GREEK - HISTORY
1	ARCHITECTURE, MADRI
1	ARCHONS
1	ARENA THEATER
1	ARISTOCRACY
1	ARISTOTELES, POETICA
1	ARMORERS
1	ARMS AND ARMOR - HISTORY
1	ART
1	ART - PHILOSOPHY
1	ART - PHILOSOPHY - COLLECTIONS
1	ART INDUSTRIES AND TRADE
1	ART INDUSTRIES AND TRADE - GREAT
1	ART OBJECTS - CANADA
1	ART OBJECTS - COLLECTORS AND COLL
1	ART OBJECTS, CYPRIOTE
1	ART PATRONAGE - ATHENS
1	ARYANS
2	ASSOCIATION OF IDEAS
2	ATHENS - HISTORY
1	ATHENS - INTELLECTUAL LIFE
1	ATHENS - POLITICS AND GOVERNMENT
1	ATHENS - POPULATION
1	ATHENS, PARTHENON
1	ATLANTIS
2	ATTENTION
1	ATTENTION - ADDRESSES, ESSAYS, LE
1	ATTICA - ADMINISTRATIVE AND POLIT
2	ATTITUDE (PSYCHOLOGY)
1	ATTITUDE (PSYCHOLOGY) - TESTING
1	ATTITUDE CHANGE
2	AUGUSTUS, EMPEROR OF ROME, 63 B.C
2	AURELIUS ANTONINUS, MARCUS, EMPER
1	AUSTRALIAN ABORIGINES - SOUTH AUS
1	AUSTRALIAN ABORIGINES JIGALONG MI
1	AUTOMATION - ECONOMIC ASPECTS - A
1	AUTOMATION - SOCIAL ASPECTS - ADD
1	BANTUS
1	BARBARIAN INVASIONS OF ROME
1	BARNSTABLE, MASS.
1	BATHURST, ONT. - HISTORY
1	BATIK
1	BEHAVIOR DRUG EFFECTS.

1	BEHAVIOR MODIFICATION - ADDRESSES
3	BEHAVIORISM (PSYCHOLOGY)
1	BELIEF AND DOUBT
1	BERGMAN, INGMAR, 1918-
1	BERNHARDT, SARAH, 1844-1923
1	BIG CREEK REGION - HISTORY
1	BINANDELI (PAPUAN PEOPLE)
1	BIOFEEDBACK TRAINING
1	BIRTH ORDER
1	BLACK POWER - CHICAGO
1	BOATS AND BOATING - ONTARIO
1	BOATS AND BOATING - ONTARIO - GEO
1	BOATS AND BOATING - ONTARIO - NOR
1	BOATS AND BOATING - ONTARIO - TRE
1	BODY IMAGE
1	BOGARDE, DIRK, 1921-
1	BONDS
1	BONNIE AND CLYDE (MOTION PICTURE)
1	BOOTH, EDWIN, 1833-1893
2	BRAIN-WASHING
2	BRANT CO., ONT. - HISTORY
1	BRANT CO., ONTARIO - HISTORY
1	BRANTFORD, ONT. - HISTORY
1	BRENTANO, FRANZ CLEMENS, 1838-191
1	BRESSON, ROBERT
1	BRISTOL, ENG. UNIVERSITY. DEPT. O
1	BRONZE AGE - CYPRUS
1	BRONZE AGE - GREECE
1	BRONZES, CHINESE - CATALOGS
1	BRONZES, GREEK
1	BRONZES, ROMAN
1	BRUCE CO., ONT.
2	BRUCE CO., ONT. - HISTORY
1	BRUCE CO., ONT. DIRECTORIES
1	BRUCE COUNTY, ONT. - HISTORY
1	BRUTUS, M. JUNIUS, 79 CA.-42 B.C.
1	BUCHMAN, FRANK NATHAN DANIEL, 187
1	BUDDHIST ETHICS
1	BUDDHIST LOGIC
1	BUDGET - ADDRESSES, ESSAYS, LECTU
1	BUDGET - CALIFORNIA
1	BUDGET - FRANCE
2	BUDGET - U.S.
1	BUDGET - U.S. - ADDRESSES, ESSAYS
1	BUDGET UNITED STATES.
1	BUILDING LAWS - UNITED STATES - A
1	BUONARROTI, MICHEL ANGELO, 1475-1
1	BURTON, RICHARD, 1925-
2	BYZANTINE EMPIRE - HISTORY
1	CAESAR, C. JULIUS
1	CALENDAR, GREEK
1	CALGARY, ALTA. - SUBURBS AND ENVI
1	CALGARY, ALTA. DESCRIPTION
1	CALGARY, ALTA. STATISTICS
1	CALIFORNIA. LEGISLATURE JOINT BUD
1	CALLIGRAPHY, CHINESE
2	CANADA - HISTORY
1	CANADA - HISTORY - SOURCES
1	CANADA - HISTORY - 19TH CENTURY -
1	CANADA - POLITICS AND GOVERNMENT
1	CANADA - PUBLIC WORKS
1	CANADA COMPANY, LONDON
2	CANADA-POLITICS AND GOVERNMENT 18
3	CANADA. ROYAL COMMISSION ON TAXAT
1	CANADIAN SHIELD CLAY BELTS
1	CANNABIS PHARMACODYNAMICS.
1	CANOES AND CANOEING - SOUTH AUSTR
1	CAPITAL GAINS TAX - CANADA
1	CAPITAL GAINS TAX - GT. BRIT.
1	CAPITAL INVESTMENTS - U.S. - CONG
1	CARGO MOVEMENT
2	CARLETON CO., ONT. - HISTORY
1	CATHOLIC CHURCH IN ONTARIO
1	CATILINA, LUCIUS SERGIUS, 108 CA.
1	CENTRAL BUSINESS DISTRICTS - LOS
1	CENTRAL BUSINESS DISTRICTS - PARI
1	CENTRAL ONTARIO LAKESHORE URBAN C
1	CENTRAL PLACES - ONTARIO
1	CHAMPAIGN, ILL. - CIVIC IMPROVEME
1	CHANCE
1	CHAPLIN, CHARLES, 1889-
1	CHARACTER
3	CHARACTERS AND CHARACTERISTICS
1	CHATHAM, ONT. - HISTORY
1	CHICAGO. ART INSTITUTE
1	CHILD ANALYSIS - ADDRESSES, ESSAY
1	CHILD STUDIES
25	CHILD STUDY
3	CHILD STUDY - ADDRESSES, ESSAYS,
1	CHILD STUDY - COLLECTIED WORKS
1	CHILD STUDY - METHODOLOGY
1	CHILDREN - LANGUAGE
1	CHILDREN AS ACTORS
1	CHILDREN'S PLAYS
1	CHIPPENDALE, THOMAS, 1718-1779
1	CHIPPEWA INDIANS
2	CHOICE (PSYCHOLOGY)
1	CHRISTIAN ART AND SYMBOLISM
1	CHRISTIAN ETHICS
1	CHRISTIAN ETHICS - CATHOLIC AUTHO
1	CHRISTIAN ETHICS - COLLECTIONS
1	CHRISTIAN ETHICS - MENNONITE AUTH
1	CHRISTIAN ETHICS-ANGLICAN AUTHORS
1	CHRISTIANITY PHILOSOPHY
1	CHRONOLOGY, GREEK
1	CHURCH DECORATION AND ORNAMENT
2	CHURCH HISTORY - PRIMITIVE AND EA
1	CICERO, MARCUS TULLIUS
1	CICERO, MARCUS TULLIUS - CONTEMPO
1	CICERO, MARCUS TULLIUS - RELIGION
1	CITIES AND TOWNS - PLANNING - SI
1	CIRCUS
1	CITIES AND TOWNS - GREAT BRITAIN
2	CITIES AND TOWNS - GROWTH
1	CITIES AND TOWNS - GROWTH - ADDRE
1	CITIES AND TOWNS - GROWTH - CONGR
1	CITIES AND TOWNS - GT. BRIT.
1	CITIES AND TOWNS - GT. BRIT. - HI
19	CITIES AND TOWNS - PLANNING
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1	CITIES AND TOWNS - PLANNING - ALB

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13	CITIES AND TOWNS - PLANNING - GRE
13	CITIES AND TOWNS - PLANNING - GT.
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17	CITIES AND TOWNS - PLANNING - MAT
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11	CITIES AND TOWNS - PLANNING - NEW
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2	CITIES AND TOWNS - PLANNING - RES
3	CITIES AND TOWNS - PLANNING - SAN
1	CITIES AND TOWNS - PLANNING - SCO
2	CITIES AND TOWNS - PLANNING - SEA
1	CITIES AND TOWNS - PLANNING - SEL
1	CITIES AND TOWNS - PLANNING - SIM
1	CITIES AND TOWNS - PLANNING - SIN
1	CITIES AND TOWNS - PLANNING - SKE
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1	CITIES AND TOWNS - PLANNING - STO
4	CITIES AND TOWNS - PLANNING - STU
2	CITIES AND TOWNS - PLANNING - SWE
1	CITIES AND TOWNS - PLANNING - T'A
1	CITIES AND TOWNS - PLANNING - TEE
4	CITIES AND TOWNS - PLANNING - TOR
40	CITIES AND TOWNS - PLANNING - U.S
20	CITIES AND TOWNS - PLANNING - UNI
1	CITIES AND TOWNS - PLANNING - VAN
1	CITIES AND TOWNS - PLANNING - VIR
2	CITIES AND TOWNS - PLANNING - WAL
3	CITIES AND TOWNS - PLANNING - WAR
7	CITIES AND TOWNS - PLANNING - WAS
2	CITIES AND TOWNS - PLANNING - WHI
1	CITIES AND TOWNS - PLANNING - YOR
43	CITIES AND TOWNS - PLANNING - 194
1	CITIES AND TOWNS - SIMULATION MET
1	CITIES AND TOWNS - STOCKHOLM
1	CITIES AND TOWNS - U.S.
1	CITIES AND TOWNS - U.S. - BIBLIOG
1	CITIES AND TOWNS - U.S. - CONGRES
1	CITIES AND TOWNS - UNITED STATES
1	CITIES AND TOWNS-PLANNING
1	CITIES AND TOWNS-PLANNING-CALGARY
2	CITIES AND TOWNS-PLANNING-CANADA
1	CITIES AND TOWNS-PLANNING-COLUMBI
1	CITIES AND TOWNS-PLANNING-CONGRES
1	CITIES AND TOWNS-PLANNING-FOREST
2	CITIES AND TOWNS-PLANNING-GREAT B
2	CITIES AND TOWNS-PLANNING-INDIA.
3	CITIES AND TOWNS-PLANNING-MATHEMA
3	CITIES AND TOWNS-PLANNING-METROPO
1	CITIES AND TOWNS-PLANNING-MONTREA
1	CITIES AND TOWNS-PLANNING-NIGERIA
1	CITIES AND TOWNS-PLANNING-NOVA SC
5	CITIES AND TOWNS-PLANNING-ONTARIO
1	CITIES AND TOWNS-PLANNING-SIRSI.

1 CITIES AND TOWNS PLANNING SYDNEY.
3 CITIES AND TOWNS PLANNING TORONTO
1 CITIES AND TOWNS PLANNING TRENTON
6 CITIES AND TOWNS PLANNING-UNITED
7 CITIES AND TOWNS PLANNING-1945-
1 CITIES AND TOWNS PLANNING.
2 CITIES AND TOWNS, ANCIENT
1 CITIES AND TOWNS, MEDIEVAL
1 CITIZEN KANE (MOTION PICTURE)
1 CITY PLANNING AND REDEVELOPMENT L
1 CITY TRAFFIC - CALGARY, ALTA.
1 CITY TRAFFIC - GT. BRIT.
1 CIVIL LAW
3 CIVILIZATION
1 CIVILIZATION - GREEK
1 CIVILIZATION - HISTORY
1 CIVILIZATION, ETRUSCAN
14 CIVILIZATION, GREEK
1 CIVILIZATION, MINOAN
3 CIVILIZATION, MYCENAEAN
1 CIVILIZATION, SEMITIC
1 CLASSICAL ANTIQUITIES
1 CLASSICAL BIOGRAPHY
1 CLASSICAL GEOGRAPHY
1 CLASSICISM
1 CLAUDIUS, EMPEROR OF ROME, 10 B.C
1 CLEISTHENES
1 CLINICAL PSYCHOLOGY
1 CLOCKS AND WATCHES, AMERICAN.
1 CNOSSUS, CRETE
1 COALITION (SOCIAL SCIENCES)
1 COATES, ROBERT, 1772-1848
1 COCHRANE, FRANK, 1852-1919
1 CODING THEORY
1 COEUR, JACQUES, D. 1456
1 COGNITION (CHILD PSYCHOLOGY)
1 COGNITION (CHILD STUDY)
1 COLOR - PSYCHOLOGY
1 COLOR PRINTS - CATALOGS
1 COLOR PRINTS, JAPANESE
1 COLOR PSYCHOLOGY.
1 COMBINATORY LOGIC
1 COMEDIANS, AMERICAN
1 COMEDY
2 COMEDY FILMS
1 COMIC, THE
1 COMMITMENT (PSYCHOLOGY)
1 COMMUNICATION
1 COMMUNICATION - ADDRESSES, ESSAYS
1 COMMUNICATION - PSYCHOLOGICAL ASP
1 COMMUNICATION-PSYCHOLOGICAL ASPEC
1 COMMUNISM - U.S. - 1917-
1 COMMUNISM AND RELIGION
2 COMMUNIST ETHICS
1 COMMUNITY
1 COMMUNITY DEVELOPMENT - AUSTRALIA
1 COMMUNITY DEVELOPMENT - NEW YORK
1 COMMUNITY DEVELOPMENT - U.S. - CO
2 COMMUNITY DEVELOPMENT - UNITED ST
1 COMMUNITY DEVELOPMENT-UNITED STAT
1 COMMUNITY LEADERSHIP
1 COMMUNITY LIFE
1 COMMUNITY ORGANIZATION
1 COMMUNITY PLANNING ASSISTANCE PRO
2 COMPETITION (PSYCHOLOGY)
1 COMPREHENSION
1 CONCEPTS
2 CONDITIONED RESPONSE
6 CONDUCT OF LIFE
1 CONSCIENCE
3 CONSCIOUSNESS
1 CONSTANTINUS I, THE GREAT, EMPERO
1 CONVERSION (PSYCHOANALYSIS)
1 CONVERSION - PSYCHOLOGY
1 COOPERATION
1 COOPERATION.
1 CORNWALL, ONT. HISTORY
1 CORPORATION LAW - JAPAN
1 CORPORATIONS - TURKEY - TAXATION
1 CORPORATIONS - U.S. - CONGRESSES
1 CORPORATIONS, FOREIGN - JAPAN
1 CORPORATIONS, NONPROFIT - TAXATIO
1 COSMETICS
2 COST EFFECTIVENESS
2 COSTUME
1 COSTUME - HISTORY
1 COSTUME DESIGN
3 COUNSELING
1 COURAGE
1 COURTESY
1 COVERLETS - CHICAGO - CATALOGS
1 COVERLETS, AMERICAN - CATALOGS
1 CRAIG, EDWARD GORDON, 1872-1966
2 CREATION (LITERARY, ARTISTIC, ETC
3 CREATIVE ABILITY
2 CRETE - ANTIQUITIES
1 CRIME AND CRIMINALS - PENNSYLVANI
1 CRIMINAL INVESTIGATION - ADDRESSE
1 CRIMINAL LAW - GT. BRIT.
1 CRIMINAL LAW - U.S.
1 CRITICAL PATH ANALYSIS
1 CRITICISM
1 CRITICISM - COLLECTED WORKS
1 CUKOR, GEORGE DEWEY, 1899-
1 CULTURE.
1 CULTUS
1 CYSAT, RENWARD, 1545-1614
1 DALMATIA
1 DAUMIER, HONORE VICTORIN, 1808-18
1 DAVIES, MARION, 1897-1961
1 DE STIJL (PERIODICAL)
1 DEATH
1 DEATH - PSYCHOLOGY
2 DEBTS, PUBLIC
3 DECISION-MAKING
1 DECISION-MAKING-CASE STUDIES.
1 DEE RIVER ESTUARY, ENG. - BRIDGES
1 DEFENSE CONTRACTS - GT. BRIT. - H
1 DELPHIAN ORACLE
1 DEME
1 DEMETRIUS (PSEUDO-DEMETRIUS) I, C
1 DEONTIC LOGIC - ADDRESSES, ESSAYS

1	DEPRESSION, MENTAL
1	DERBY TOWNSHIP, ONT. HISTORY
1	DESIGN - GREAT BRITAIN
1	DESIGN, INDUSTRIAL
1	DETROIT - HISTORY
1	DETROIT - HISTORY - SOURCES
1	DETROIT-ARTS AND CRAFTS THEATRE
1	DIDEROT, DENIS, 1713-1784
1	DIETRICH, MARLENE, 1904-
2	DIFFERENCE (PSYCHOLOGY)
1	DIFFUSION OF INNOVATIONS
1	DIGBY TOWNSHIP, ONT. - HISTORY
1	DISCUSSION
1	DISCUSSION - ADDRESSES, ESSAYS, L
1	DIVING, SUBMARINE
1	DORMITORIES
1	DOUBLE DESCENT (KINSHIP)
3	DRAMA
6	DRAMA - ADDRESSES, ESSAYS, LECTUR
1	DRAMA - COLLECTIONS
1	DRAMA - DICTIONARIES
14	DRAMA - HISTORY AND CRITICISM
2	DRAMA - TECHNIQUE
1	DRAMA - 19TH CENTURY - DICTIONARI
1	DRAMA - 19TH CENTURY - HISTORY AN
1	DRAMA - 20TH CENTURY - ADDRESSES,
1	DRAMA - 20TH CENTURY - DICTIONARI
5	DRAMA - 20TH CENTURY - HISTORY AN
2	DRAMA IN EDUCATION
1	DRAMA, MEDIAEVAL - HISTORY AND CR
1	DRAMATIC CRITICISM
1	DRAMATISTS
2	DRAWING, PSYCHOLOGY OF
1	DREYER, CARL THEODOR, 1889-1968
1	DUNCAS CO., ONT. - HISTORY
2	DUNDAS CO., ONT. - BIOGRAPHY
3	DUNDAS CO., ONT. - HISTORY
1	DUNDURN CASTLE, HAMILTON, ONT.
3	DUNLOP, WILLIAM, 1792-1848
1	DUNN TOWNSHIP, ONT.
1	DURHAM CO., ONT.
2	DURKHEIM, E MILE, 1858-1917
2	DUSE, ELEONORA, 1858-1924
1	DWELLINGS - GREECE
1	DWELLINGS - U.S.
1	EARTHQUAKES - YUGOSLAVIA - SKOPJE
1	EAST GWILLIMBURY TOWNSHIP, ONT. -
1	EAST OF BAY, TORONTO, ONT.
1	EBY, WILLIAM K., 1831-1905
1	ECONOMIC ASSISTANCE
1	ECONOMIC ASSISTANCE, DOMESTIC - U
1	ECONOMIC DEVELOPMENT
1	ECONOMICS, PRIMITIVE
1	EDMONTON, ALTA. - SUBURBS AND ENV
2	EGO (PSYCHOLOGY)
1	EGYPT - ANTIQUITIES
1	EIDETIC PARENTS TEST
2	EISENSTEIN, SERGEI MIKHAI LOVICH,
11	ELECTRONIC DATA PROCESSING - CITY
1	ELECTRONIC DATA PROCESSING - COMB
4	ELECTRONIC DATA PROCESSING - REGI
2	ELECTRONIC DATA PROCESSING-CITY P
1	ELECTRONIC DATA PROCESSING-NEW TO
1	ELGIN CO., ONT. - HISTORY
2	ELGIN CO., ONT. - SOCIAL LIFE AND
1	ELGIN CO., ONT.-HISTORY ADDRESSES
1	ELITE (SOCIAL SCIENCES) HISTORY A
1	EMILY TOWNSHIP, ONT. - HISTORY
4	EMOTIONS
1	EMPATHY
1	ENGA (NEW GUINEA PEOPLE)
1	ENGLISH DRAMA - EARLY MODERN AND
3	ENGLISH DRAMA - HISTORY AND CRITI
1	ENGLISH DRAMA - RESTORATION - HIS
2	ENGLISH DRAMA - 20TH CENTURY - HI
2	ENGLISH LITERATURE - TRANSLATIONS
1	ENGRAVINGS
1	ENGRAVINGS - COLLECTORS AND COLLE
1	ENGRAVINGS, DUTCH - CATALOGS
1	ENGRAVINGS, GERMAN - CATALOGS
1	ENVIRONMENTAL POLICY - U.S. - ADD
1	ENVIRONMENTAL PSYCHOLOGY.
2	ESSEX CO., ONT. - HISTORY
1	ESSEX CO., ONT. - HISTORY - SOURC
1	ETHICAL RELATIVISM
30	ETHICS
3	ETHICS - ADDRESSES, ESSAYS, LECTU
1	ETHICS - COLLECTED WORKS
1	ETHICS - COLLECTIONS
5	ETHICS - HISTORY
1	ETHICS, CHINESE
3	ETHICS, EVOLUTIONARY
1	ETHICS, GREEK
1	ETHICS, JEWISH
1	ETHICS, JEWISH - COLLECTIONS
3	ETHICS, MODERN - 20TH CENTURY
3	ETHNOLOGY
3	ETHNOLOGY - ADDRESSES, ESSAYS, LE
1	ETHNOLOGY - AUSTRALIA
1	ETHNOLOGY - CHINA
1	ETHNOLOGY - GHANA
1	ETHNOLOGY - GREECE
1	ETHNOLOGY - GT. BRIT.
1	ETHNOLOGY - GT. BRIT. - LONDON
1	ETHNOLOGY - HISTORY
1	ETHNOLOGY - NIGERIA
1	ETHNOLOGY - PONAPE ISLAND
1	ETHNOLOGY - RHODESIA, SOUTHERN
1	ETHNOLOGY - TANZANIA
1	ETHNOLOGY-ADDRESSES, ESSAYS, LECT
1	ETHNOLOGY-AFRICA, SUB-SAHARAN.
1	ETHNOLOGY-AUSTRALIA.
1	ETHNOLOGY-HISTORY.
1	ETHNOLOGY-OCEANICA.
3	ETHNOPSYCHOLOGY
1	ETHOPSYCHOLOGY
1	ETRURIA - ANTIQUITIES
1	ETRURIANS
1	EUROPE - MORAL CONDITIONS
1	EUROPEAN WAR, 1914-1918 - FINANCE
1	EVOLUTION
1	EXCAVATIONS (ARCHAEOLOGY) - MESOP

1	EXCAVATIONS (ARCHAEOLOGY) - ONTAR
1	EXCAVATIONS (ARCHAEOLOGY) - ROME
1	EXCHANGE
2	EXPERIMENTAL DESIGN
1	EXPERIMENTAL FILMS - ADDRESSES, E
1	EXPERIMENTAL FILMS - HISTORY AND
1	EXPRESS HIGHWAYS - FLINTSHIRE, WA
1	EXTENSION (LOGIC)
1	FAIRBANKS, DOUGLAS, 1909-
1	FAITH-CURE
1	FAMILY - LONDON
1	FANTASTIC FILMS
1	FEAR
1	FEEDBACK (PSYCHOLOGY)
1	FELLINI, FEDERICO.
1	FETISHISM
2	FICTION
1	FICTION-HISTORY AND CRITICISM
1	FILM ADAPTATIONS
1	FINANCE - CANADA
2	FINANCE - INDIA
1	FINANCE, PUBLIC
1	FINANCE, PUBLIC - ADDRESSES, ESSA
1	FINANCE, PUBLIC - CANADA - COLLEC
1	FINANCE, PUBLIC - CANADA - PROVIN
1	FINANCE, PUBLIC - CHINA (PEOPLE'S
1	FINANCE, PUBLIC - CLEVELAND METRO
1	FINANCE, PUBLIC - GT. BRIT.
1	FINANCE, PUBLIC - GT. BRIT. - 194
1	FINANCE, PUBLIC - INDIA
1	FINANCE, PUBLIC - JAPAN - LAW
1	FINANCE, PUBLIC - LESOTHO
1	FINANCE, PUBLIC - MISSOURI
1	FINANCE, PUBLIC - U.S. - STATES
1	FINANCE, PUBLIC - UNITED STATES
1	FINANCE, PUBLIC - UNITED STATES -
1	FISCAL POLICY
1	FISCAL POLICY - PAKISTAN
2	FISCAL POLICY - U.S.
1	FISCAL POLICY - UNITED STATES - A
1	FLETCHER, JOHN, 1579-1625. THE LO
1	FOLK ART - HUNGARY
1	FOLK ART - INDIA
1	FOLK-LORE, BANTU
1	FOREIGN EXCHANGE - LAW - JAPAN
2	FORM PERCEPTION
1	FORREST, EDWIN, 1806-1872
1	FRAZER, (SIR) JAMES GEORGE, 1854-
4	FREE WILL AND DETERMINISM
1	FREE WILL AND DETERMINISM - ADDRE
1	FRENCH DRAMA - HISTORY AND CRITIC
1	FRENCH DRAMA - 17TH CENTURY - HIS
1	FRENCH DRAMA - 18TH CENTURY - HIS
6	FREUD, SIGMUND, 1856-1939
1	FREUD, SIGMUND, 1856-1939.
4	FRONTIER AND PIONEER LIFE - ONTAR
1	FRONTIER AND PIONEER LIFE-ONTARIO
1	FULANS
1	FULLER, SAMUEL MICHAEL, 1911-
1	FUNERAL RITES AND CEREMONIES - RO
1	FURNITURE - ENGLAND
1	FURNITURE - HISTORY
1	FURNITURE, AMERICAN
1	FURNITURE, FRENCH-CANADIAN - HIST
1	GALLA PLACIDIA, 389, CA.-450
1	GALT, (SIR) ALEXANDER TILLOCH, 18
1	GALT, ELLIOTT TORRANCE, 1850-1928
1	GALT, JOHN, 1779-1839
3	GAME THEORY
1	GAMES OF STRATEGY (MATHEMATICS)
1	GARDENING - PAPUA
1	GARMENT CUTTING
1	GAUL, CISALPINE
1	GEERARTS, MARC, D. CA. 1600
1	GEMS, GREEK
2	GENETIC PSYCHOLOGY
1	GENETIC PSYCHOLOGY - ADDRESSES, E
1	GENETIC PSYCHOLOGY - HISTORY
1	GENIUS
2	GEORGIAN BAY - DESCRIPTION AND TR
2	GEORGIAN BAY REGION - HISTORY
1	GERMAN DRAMA - 20TH CENTURY - HIS
3	GESTALT PSYCHOLOGY
1	GIFTS - TAXATION - CANADA
1	GLASS MANUFACTURE - IRELAND
1	GLASSWARE - CANADA
1	GLASSWARE - COLLECTORS AND COLLEC
1	GLASSWARE - IRELAND
1	GLENGARRY CO., ONT. - HISTORY
1	GLENGARRY CO., ONTARIO - HISTORY
1	GOAL (PSYCHOLOGY)
4	GOOD AND EVIL
1	GOULD, JOSEPH, 1808-1886
1	GOVERNMENT-SPENDING POLICY UNITED
1	GOVERNMENT, PRIMITIVE
1	GRACCHUS, TIBERIUS SEMPRONIUS
1	GRANTS-IN-AID - CANADA
1	GRANTS-IN-AID - U.S.
1	GRANTS-IN-AID - UNITED STATES - A
1	GREAT BRITAIN - HISTORY - HENRY I
1	GREAT BRITAIN - HISTORY - JOHN, I
1	GREAT BRITAIN - SOCIAL CONDITIONS
1	GREAT BRITAIN-SOCIAL POLICY COLLE
1	GREECE
3	GREECE - ANTIQUITIES
2	GREECE - BIOGRAPHY
1	GREECE - COLONIES
1	GREECE - DESCRIPTION, GEOGRAPHY
1	GREECE - ECONOMIC CONDITIONS
1	GREECE - HISTORIOGRAPHY
12	GREECE - HISTORY
1	GREECE - HISTORY - ADDRESSES, ESS
3	GREECE - HISTORY - PELOPONNESIAN
1	GREECE - HISTORY - PERISAN WARS,
1	GREECE - HISTORY - SOURCES
2	GREECE - POLITICS AND GOVERNMENT
4	GREECE - SOCIAL LIFE AND CUSTOMS
1	GREECE-HISTORY PELOPONNESIAN WAR,
1	GREECE, MODERN - DESCRIPTION AND
1	GREEK HISTORIANS
1	GREEK LANGUAGE - HISTORY
2	GREEK LITERATURE - TRANSLATIONS I

1 GREEKS
1 GREEKS IN ROME
1 GREEKS IN SICILY
1 GREENBELTS - ILLINOIS
1 GREENBELTS - LONDON, ENG.
3 GREENBELTS - U.S.
1 GRENVILLE CO., ONT. - HISTORY
1 GRENVILLE CO., ONT.-HISTORY
1 GREY CO., ONT. - HISTORY
1 GREY CO., ONT.-HISTORY
1 GRIEF
1 GROUP RELATIONS TRAINING - ADDRES
1 GROUP RELATIONS TRAINING,
1 GT. BRIT. - APPROPRIATIONS AND EX
1 GT. BRIT. - ECONOMIC CONDITIONS
1 GT. BRIT. - SOCIAL CONDITIONS - 1
2 GT. BRIT.-TREASURY
2 GUILT
1 GUITRY, SACHA, 1885-1957
1 HABIT
3 HALIBURTON CO., ONT. - HISTORY
1 HALIBURTON CO., ONT. - HISTORY -
1 HALIBURTON CO., ONT.-HISTORY
1 HALLUCINOGENIC DRUGS
1 HAMBURG. NATIONAL-THEATER
1 HAMILTON, (SIR) WILLIAM, BART.
1 HAMPSHIRE, ENG. - HISTORY
1 HANDICRAFT - CANADA
1 HANDICRAFT - INDIA
2 HAPPINESS
1 HASTINGS CO., ONT. - HISTORY
1 HATE
1 HAUSSMANN, GEORGES EUGENE, BARON
1 HAYWORTH, RITA, 1919-
1 HEINRICH, THEODORE ALLEN
4 HELLENISM
1 HELPING BEHAVIOR - ADDRESSES, ESS
1 HEPBURN, MITCHELL FREDERICK, 1896
1 HEREDITY
1 HERODOTUS
1 HINDU ETHICS
1 HISTORICAL DRAMA - HISTORY AND CR
1 HISTORY - METHODOLOGY
1 HISTORY - PHILOSOPHY
1 HISTORY, ANCIENT - ADDRESSES, ESS
1 HITCHCOCK, ALFRED JOSEPH, 1899-
1 HOBHOUSE, LEONARD TRELAWNEY, 1864
1 HOLLAR, WENCESLAUS, 1607-1677
1 HOPE, ONT. (TOWNSHIP) - HISTORY
1 HORATIUS FLACCUS, QUINTUS, CARMEN
2 HOUSING
2 HOUSING - CANADA
1 HOUSING - CONGRESSES
1 HOUSING - GT. BRIT. - FINANCE
1 HOUSING - NEW YORK (CITY)
1 HOUSING - U.S.
1 HOUSING - U.S. - CONGRESSES
1 HOUSING - U.S. - FINANCE
2 HOUSING - UNITED STATES
1 HOUSING - UNITED STATES - CASE ST
1 HOUSING - WASHINGTON, D.C.
1 HOUSING-GREAT BRITAIN
1 HOUSING-INDIA.
1 HOUSING-METROPOLITAN TORONTO, ONT
1 HOUSING-ONTARIO
6 HUMAN BEHAVIOR
1 HUMAN ECOLOGY
1 HUMAN ECOLOGY - ADDRESSES, ESSAYS
1 HUMAN ECOLOGY - COLLECTIONS
1 HUMAN ECOLOGY - CONGRESSES
2 HUMAN EVOLUTION
1 HUMAN EVOLUTION - ADDRESSES, ESSA
1 HUMAN FIGURE IN ART
1 HUMAN INFORMATION PROCESSING
1 HUMANISTIC PSYCHOLOGY
1 HUMBER RIVER, ONT. - HISTORY
1 HUMBER VALLEY, ONT. - HISTORY
1 HUME, DAVID, 1711-1776. A TREATIS
1 HUNTING, PRIMITIVE
1 HURON COUNTY, ONT.
2 HURON COUNTY, ONT. - HISTORY
1 HURON, LAKE - DESCRIPTION AND TRA
1 IBO TRIBE
1 ID (PSYCHOLOGY)
1 IDENTITY (PSYCHOLOGY)
1 IMAGINTION
1 IMITATION
1 INCOME - UNITED STATES - ADDRESSE
1 INCOME TAX
1 INCOME TAX - TURKEY
3 INCOME TAX - UNITED STATES
1 INCOME TAX-CANADA
1 INDIA - ANTIQUITIES
1 INDIA - APPROPRIATIONS AND EXPEND
1 INDIA - ECONOMIC CONDITIONS
1 INDIA - PUBLIC WORKS
1 INDIAN TRAILS ONTARIO HISTORY
1 INDIANS OF NORTH AMERICA - CULTUR
1 INDIANS OF NORTH AMERICA - PSYCHO
1 INDIVIDUALITY
1 INDUCTION (LOGIC)
1 INDUSTRIAL MANAGEMENT
1 INDUSTRIES, LOCATION OF
1 INDUSTRIES, LOCATION OF - EAST YO
5 INFANTS
1 INFORMATION THEORY IN PSYCHOLOGY
1 INHERITANCE AND TRANSFER TAX
2 INHERITANCE AND TRANSFER TAX - CA
1 INSTINCT
3 INTELLECT
2 INTELLECT - ADDRESSES, ESSAYS, LE
1 INTELLECTUALS
3 INTERGOVERNMENTAL FISCAL RELATION
1 INTERIOR DECORATION.
1 INTERPERSONAL ATTRACTION
4 INTERPERSONAL RELATIONS
2 INTERVIEWING
1 INTUITION (PSYCHOLOGY)
1 INVESTMENT TAX CREDIT - U.S. - CO
1 INVESTMENTS, AMERICAN
1 INVESTMENTS, AMERICAN - TAXATION
1 INVESTMENTS, FOREIGN - TAXATION.

1 IRONY
1 IRONY IN LITERATURE
2 IRVING, (SIR) HENRY, 1838-1905
1 ISENBERG, ARNOLD
1 ISLAMIC ETHICS
1 ITALY - HISTORY - 1492-1559
1 IVANOV, VIACHESLAV IVANOVICH, 186
1 IVORIES-ENGLAND.
1 IVORIES, MEDIEVAL-ENGLAND.
1 IVORIES, MEDIEVAL-EXHIBITIONS.
1 JEFFERSON, JOSEPH, 1829-1905
1 JEWELRY, EGYPTIAN
1 JIGALONG MISSION.
1 JUAN, DON
1 JUDAISM AND SOCIAL PROBLEMS - COL
1 JUDGMENT
1 JUDGMENT (ETHICS)
1 JUNG, CARL GUSTAV, 1875-
2 JUNG, CARL GUSTAV, 1875-1961
1 JURISPRUDENCE - ADDRESSES, ESSAYS
1 KABUKI
1 KADUNA, NIGERIA - ECONOMIC CONDIT
1 KAMBA TRIBE
1 KANO, NIGERIA (CITY) - ECONOMIC C
1 KAZAN, ELIA
1 KEAN, EDMUND, 1787-1833
2 KENT CO., ONT. - HISTORY
1 KHAFAJE, IRAQ
1 KIKUYU TRIBE
3 KINSHIP
1 KINSHIP - ADDRESSES, ESSAYS, LECT
1 KINSHIP,
1 KIRKWOOD, ONT. - HISTORY
1 KIRKWOOD, ONT. - SOCIAL LIFE AND
1 KLEIN, MELANIE
1 KNOWLEDGE, SOCIOLOGY OF
1 KNOWLEDGE, THEORY OF
1 KROBO (AFRICAN TRIBE)
3 LAMBTON CO., ONT. - HISTORY
2 LANARK CO., ONT. - HISTORY
1 LANARK CO., ONT. - SOCIAL LIFE AN
1 LAND
1 LAND - MATHEMATICAL MODELS
1 LAND - ONTARIO - TORONTO
1 LAND - U.S.
1 LAND BANKS - NEW YORK (STATE)
1 LAND VALUE TAXATION - INDIA - HIS
1 LANDSCAPE
1 LANDSCAPE PAINTING, CHINESE
2 LANGUAGE AND LANGUAGES
3 LANGUAGES - PSYCHOLOGY
1 LANGUAGES AND LANGUAGES
1 LATIN HISTORIANS
1 LATIN LANGUAGE
1 LATIN LITERATURE - ADDRESSES, ESS
1 LATIN LITERATURE - HISTORY AND CR
1 LAUGHTER
2 LAW AND ETHICS
1 LAW, GREEK
1 LAW, TSWANA
1 LAXTON TOWNSHIP, ONT. - HISTORY

2 LEADERSHIP
1 LEARNING ABILITY
3 LEARNING, PSYCHOLOGY OF
1 LECOUVREUR, ADRIENNE, 1692-1730
1 LEEDS CO., ONT. - HISTORY
1 LEEDS CO., ONT. - HISTORY
2 LEISURE
1 LENNOX AND ADDINGTON CO., ONT. -
1 LESSING, GOTTHOLD EPHRAIM, 1729-1
1 LIABILITY (LAW) - ADDRESSES, ESSA
1 LIBERTY
2 LIFE
1 LIFE AND DEATH, POWER OVER
1 LIGURIA - HISTORY
1 LINEAR PROGRAMMING
1 LITHOGRAPHS
1 LITHOGRAPHY - HISTORY
1 LITHOGRAPHY - TECHNIQUE
1 LOCAL FINANCE - U.S.
1 LOCAL GOVERNMENT
1 LOCAL GOVERNMENT - INDIA - CONGRE
1 LOCATE (COMPUTER PROGRAM)
13 LOGIC
1 LOGIC - ADDRESSES, ESSAYS, LECTU
2 LOGIC - COLLECTIONS
1 LOGIC - EARLY WORKS TO 1800
2 LOGIC - HISTORY
1 LOGIC, MODERN
1 LOGIC, MODERN - ADDRESSES, ESSAYS
9 LOGIC, SYMBOLIC AND MATHEMATICAL
1 LONDON - DESCRIPTION
1 LONDON - DESCRIPTION - VIEWS
1 LONDON - ECONOMIC CONDITIONS
1 LONDON - OFFICE BUILDINGS
1 LONDON - SOCIAL CONDITIONS
1 LONDON - THEATERS
1 LONDON, COURT THEATRE
1 LONDON, HAYMARKET THEATRE
1 LONDON, ENG. - MUSIC-HALLS (VARIE
1 LONDON, ENG. GAIETY THEATRE
1 LONDON, OLD VIC THEATRE
1 LONDON, ONT.
1 LONDON, ONT. (TOWNSHIP) - DESCRIP
1 LONDON, ONT. (TOWNSHIP) - HISTORY
1 LONGFORD TOWNSHIP, ONT. - HISTORY
3 LOVE
1 LUCERNE PASSION-PLAY
1 LUMBERING - KIRKWOOD, ONT.
1 MACAULAY, ONT.
1 MACDONALD, JOHN SANDFIELD, 1812-1
1 MACDONELL, ALEXANDER, BP. OF KING
1 MACEDONIA - CIVILIZATION - GREEK
1 MACEDONIA - HISTORY - ANCIENT TO
1 MACIVER, ROBERT MORRISON, 1882-
1 MACKLIN, CHARLES, 1697?-1797
1 MACNAB, SIR ALLAN NAPIER, BART.,
1 MAGIC - AFRICA
1 MAGIC, PAPUAN
1 MAILLOL, ARISTIDE JOSEPH BONAVENT
1 MAKE-UP, THEATRICAL
1 MAN

1 MAN - ATTITUDE AND MOVEMENT
1 MAN - CONSTITUTION
5 MAN - INFLUENCE OF ENVIRONMENT
1 MAN - INFLUENCE OF ENVIRONMENT -
1 MAN - ORIGIN
1 MAN-INFLUENCE ON NATURE
2 MAN, PREHISTORIC
1 MAN, PRIMITIVE
1 MADRIS
1 MARCH TOWNSHIP, ONT. HISTORY
1 MARIHUANA-PHYSIOLOGICAL EFFECT.
1 MARIHUANA-PSYCHOLOGICAL ASPECTS.
1 MARKHAM TOWNSHIP, ONT.
1 MARKHAM, ONT. HISTORY
1 MARKOV PROCESSES
1 MARTIN, HELENA SAVILLE (FAUCIT) L
1 MASKS
1 MASQUES
1 MATERIALISM
1 MATHEMATICAL ANTHROPOLOGY
1 MATHEMATICAL MODELS
1 MATURATION (PSYCHOLOGY)
1 MEANING (PSYCHOLOGY)
1 MEANING (PSYCHOLOGY)
1 MEDICINE BOTTLES - CATALOGS
1 MEDITERRANEAN REGION - ANTIQUITIE
1 MEI, LAN-FANG, 1894-1961
2 MELODRAMA - HISTORY AND CRITICISM
3 MEMORY
1 MEMORY, DISORDERS OF
1 MENKEN, ADAH ISAACS, 1835-1868
2 MENNONITES IN WATERLOO COUNTY, ON
1 MENTAL HEALING
1 MENTAL ILLNESS
3 MENTAL TESTS
1 MENTALLY ILL CHILDREN
1 MERRITT, WILLIAM HAMILTON, 1793-1
1 MESOPOTAMIA - ANTIQUITIES
1 METAPHOR ADDRESSES, ESSAYS, LECTU
1 METHODOLOGY
1 METROPOLITAN AREAS
1 METROPOLITAN AREAS - CONGRESSES
2 METROPOLITAN AREAS - U.S.
1 METROPOLITAN FINANCE - CASE STUDI
1 MICHIPICOTEN AREA
1 MICRONESIANS
1 MIDDLE AGE - ADDRESSES, ESSAYS, L
1 MIDDLESEX CO., ONT.
1 MIDDLESEX COUNTY, ONT. BIOGRAPHY
1 MIDDLESEX COUNTY, ONT. HISTORY
1 MIGRATION, INTERNAL - U.S.
1 MIGRATION, INTERNAL - UNITED STAT
1 MILITARY MINIATURES
2 MIND AND BODY
2 MINNESOTA MULTIPHASIC PERSONALITY
1 MINOANS
1 MITHRAISM
1 MODALITY (LOGIC) - ADDRESSES, ESS
1 MONETARY POLICY - PAKISTAN
2 MOORE, HENRY SPENCER, 1898-
1 MORAL REARMAMENT

1 MORRIS, DESMOND, THE NAKED APE
1 MOSCA, GAETANO, 1858-1941
1 MOSCOW - THEATERS
1 MOTHER AND CHILD
1 MOTHERS
1 MOTION PERCEPTION (VISION)
6 MOTIVATION (PSYCHOLOGY)
1 MOTOR LEARNING
1 MOVEMENT (ACTING)
2 MOVEMENT, PSYCHOLOGY OF
1 MOVING-PICTURES
1 MOVING-PICTURE INDUSTRY - HOLLYWO
2 MOVING-PICTURE INDUSTRY - U.S.
1 MOVING-PICTURE PLAYS
1 MOVING-PICTURE PRODUCERS AND DIRE
6 MOVING-PICTURES
3 MOVING-PICTURES - AESTHETICS
1 MOVING-PICTURES - EUROPE, EASTERN
1 MOVING-PICTURES - FRANCE - HISTOR
1 MOVING-PICTURES - GT. BRIT.
2 MOVING-PICTURES - HISTORY
1 MOVING-PICTURES - ITALY
1 MOVING-PICTURES - MORAL AND RELIG
1 MOVING-PICTURES - PHILOSOPHY
2 MOVING-PICTURES - PRODUCTION AND
2 MOVING-PICTURES - REVIEWS
1 MOVING-PICTURES - RUSSIA
1 MOVING-PICTURES - SCANDINAVIAN
1 MOVING-PICTURES - SOCIAL ASPECTS
1 MOVING-PICTURES - U.S.
1 MOVING-PICTURES - U.S. - HISTORY
1 MOVING-PICTURES - UNITED STATES
1 MOVING-PICTURES-ADDRESSES, ESSAYS
1 MOVING-PICTURES-EUROPE, EASTERN H
1 MOVING-PICTURES-POLITICAL ASPECTS
1 MOVING-PICTURES-UNITED STATES.
1 MOWAT, (SIR) OLIVER, 1820-1903 -
1 MUNI, PAUL, 1895-1967
1 MUNICIPAL BONDS
1 MUNICIPAL BUDGETS - UNITED STATES
1 MUNICIPAL FINANCE
1 MUNICIPAL FINANCE - U.S.
1 MUNICIPAL FINANCE - UNITED STATES
1 MUNICIPAL FINANCE-INDIA MARATHWAD
1 MUNICIPAL GOVERNMENT - NEW JERSEY
2 MUNICIPAL GOVERNMENT - U.S.
1 MUNICIPAL RESEARCH
1 MUNICIPAL RESEARCH - GT. BRIT.
1 MURIA
1 MUSKOKA (DISTRICT) - DESCRIPTION
1 MUSKOKA (DISTRICT) - HISTORY - SO
1 MUSKOKA, ONT. (DISTRICT)
1 MUSKOKA, ONT. (DISTRICT) - HISTOR
1 MUSKOKA, ONT. (DISTRICT) HISTORY
2 MYCENAE
1 NAMES, GEOGRAPHICAL - ONTARIO - H
1 NASH, PAUL, 1889-1946
1 NATIONAL CHARACTERISTICS, AMERICA
1 NATIONAL CHARACTERISTICS, GREEK (
1 NATURAL RESOURCES.
1 NATURE (AESTHETICS)

1	NAVIGATION, PRIMITIVE
1	NEGOTIATION
1	NEGOTIATION.
2	NEGRO RACE
1	NEGROES - NEW YORK (CITY)
1	NEGROES IN MOVING-PICTURES
2	NEIGHBORHOOD
1	NERO, EMPEROR OF ROME, 37-68
1	NEUROPHYSIOLOGY - ADDRESSES, ESSA
1	NEUROPSYCHOLOGY-CONGRESSES.
1	NEUROSES
1	NEW TOWNS - ENGLAND
1	NEW TOWNS AUSTRALIA.
1	NEW TOWNS GREAT BRITAIN.
1	NEW TOWNS UNITED STATES CONGRESSE
2	NEW TOWNS UNITED STATES.
1	NEW TOWNS.
2	NEW YORK (CITY) - SOCIAL CONDITIO
1	NEWCASTLE-UPON-TYNE, ENG. - SOCIA
1	NIAGARA ESCARPMENT, ONT.
1	NIAGARA FALLS (CITY) - ONT. - HIS
2	NIAGARA FALLS - DESCRIPTION
2	NIAGARA FALLS - DESCRIPTION - VIE
1	NIAGARA FRONTIER - DESCRIPTION AN
1	NIAGARA FRONTIER - HISTORY
1	NIGERIA - DESCRIPTION AND TRAVEL
2	NO
1	NONVERBAL COMMUNICATION
1	NORFOLK CO., ONT.
1	NORTH CHANNEL, ONTARIO - DESCRIPT
1	NORTH DORCHESTER TOWNSHIP, ONT. -
1	NORTHUMBERLAND CO., ONT.
1	NUMBER CONCEPT
1	NURSES AND NURSING
1	NYAYA
1	OBERAMMERGAU - DESCRIPTION
1	OBERAMMERGAU PASSION-PLAY
2	OLD AGE
1	ONTARIO
1	ONTARIO - ADDRESSES, ESSAYS, LECT
1	ONTARIO - BIOGRAPHY
1	ONTARIO - BOUNDARIES
2	ONTARIO - DESCRIPTION AND TRAVEL
1	ONTARIO - ECONOMIC CONDITIONS
1	ONTARIO - GAZETTEERS
10	ONTARIO - HISTORY
2	ONTARIO - HISTORY - ADDRESSES, ES
1	ONTARIO - HISTORY - CHRONOLOGY
2	ONTARIO - HISTORY - SOURCES
1	ONTARIO - HISTORY, LOCAL
1	ONTARIO - INDUSTRIES - DIRECTORIE
1	ONTARIO - POLITICAL AND GOVERNMEN
10	ONTARIO - POLITICS AND GOVERNMENT
4	ONTARIO - SOCIAL LIFE AND CUSTOMS
1	ONTARIO CO., ONT. - HISTORY
1	ONTARIO CO., ONT. HISTORY
2	ONTARIO-HISTORY
1	ONTARIO-HOUSING CORPORATION
2	ONTARIO-POLITICS AND GOVERNMENT
1	ONTARIO-MUNICIPAL BOARD
1	ONTARIO, EASTERN - HISTORY - ADDR

1	ONTARIO, NORTHERN - BIOGRAPHY
1	ONTARIO, NORTHERN - SOCIAL LIFE A
1	ONTARIO, NORTHWESTERN - DIRECTORI
1	ONTARIO, NORTHWESTERN - ECONOMIC
1	ONTOLOGY
1	OPEN SPACES - BARNSTABLE, MASS.
1	OPEN THEATRE
1	OPERA - LONDON - HISTORY AND CRIT
1	ORAL COMMUNICATION
2	ORGANIZATION
1	ORGANIZATIONAL CHANGE
1	ORGANIZATIONAL RESEARCH - ADDRESS
1	OSTIA, ITALY
1	OTTAWA REGION - DESCRIPTION AND T
1	OTTAWA REGION-DESCRIPTION AND TRA
1	OTTAWA VALLEY - ECONOMIC CONDITIO
2	OTTAWA VALLEY - HISTORY
1	OTTO E MEZZO (MOTION PICTURE)
1	OUTDOOR RECREATION NOVA SCOTIA CO
1	OZU, YASUJIRO, 1903-1963
1	PANTOMIME
1	PARETO, VILFREDO, 1848-1923
1	PARIS, COME DIE-FRANC AISE
1	PARKS - U.S.
1	PARTNERSHIP TAXATION CANADA
1	PASTORAL PSYCHOLOGY
1	PATTERN PERCEPTION
1	PEEL CO., ONT. - HISTORY
4	PERCEPTION
1	PERCEPTION - ADDRESSES, ESSAYS, L
1	PERCEPTION-ADDRESSES, ESSAYS, LEC
1	PERCY PORTAGE, ONT.
1	PERCY TOWNSHIP, ONT.
1	PERFORMING ARTS - ASIA - ADDRESSE
1	PERFORMING ARTS - UNITED STATES
1	PERICLES, 499-429 B.C.
19	PERSONALITY
1	PERSONALITY - ADDRESSES, ESSAYS,
4	PERSONALITY AND CULTURE
1	PERSONALITY ASSESSMENT
1	PERSONALITY ASSESSMENT - ADDRESSE
1	PERSONALITY ASSESSMENT-CONGRESSES
3	PERSONALITY TESTS
1	PERSONALITY, DISORDERS OF
1	PERSUASION (PSYCHOLOGY)
2	PERTH CO., ONT. - HISTORY
1	PETERBOROUGH CO., ONT. - HISTORY
2	PHENOMENOLOGICAL PSYCHOLOGY
1	PHILIP II, KING OF MACEDONIA, 382
2	PHILOSOPHY
1	PHILOSOPHY OF NATURE
1	PHILOSOPHY, PRIMITIVE
1	PHOTOGRAPHIC INTERPRETATION
1	PHOTOGRAPHY, AERIAL
1	PHYCHOLOGY - ADDRESSES, ESSAYS, I
3	PIAGET, JEAN, 1896-
1	PICKERING, ONT. (TOWNSHIP) - ANTI
1	PICKERING, ONT. (TOWNSHIP)-HISTOR
1	PICKERING, ONTARIO (TOWNSHIP) - B
1	PICKERING, ONTARIO (TOWNSHIP) - H
1	PIONEERS - MUSKOKA, ONT. (DISTRIC

1	PIONEERS' MUSKOKA, ONT., (DISTRICT)
1	PISCATOR, ERWIN, 1893-1966
1	PITTSBURGH - SOCIAL CONDITIONS
1	PLANNING - ADDRESSES, ESSAYS, LEC
1	PLAUSIBILITY (LOGIC)
2	PLAY
1	POLAND - SOCIAL CONDITIONS - 1945
2	POLITICAL PSYCHOLOGY
1	POLITICAL SOCIOLOGY
1	POLYBIUS
1	POLYGAMY
1	POLYNESIANS
1	POOR-UNITED STATES-CONGRESSES.
1	POPULATION GENETICS - ADDRESSES,
1	PORCELAIN - FOU-LIANG, CHINA (KIA
1	PORCELAIN, CHINESE
1	PORCELAIN, KOREAN
1	POSTURE
1	POTIDAEA
1	POTTERS - ATHENS
1	POTTERY - KYOTO - HISTORY
1	POTTERY - UNITED STATES - CONGRES
1	POTTERY-CONESTOGO, ONT.
1	POTTERY, AMERICAN
1	POTTERY, ANCIENT - CONGRESSES
1	POTTERY, CANADIAN
1	POTTERY, ENGLISH - HISTORY
1	POTTERY, GREEK - CATALOGS
1	POTTERY, KOREAN
1	POWER (SOCIAL SCIENCES)
1	POWER (SOCIAL SCIENCES) - ADDRESS
1	POWER (SOCIAL SCIENCES)-HISTORY A
1	PRAGUE, NA RODNI DIVADLO
1	PREDICTION (LOGIC)
1	PREDICTION (PSYCHOLOGY)
1	PREJUDICES AND ANTIPATHIES
1	PRIESTS, GREEK
1	PRINCE EDWARD CO., ONT. - DESCRIP
1	PRINCETON UNIVERSITY, RESEARCH CE
1	PRINTERS' MARKS - JAPAN
1	PROBABILITIES.
1	PROBLEM SOLVING
1	PROBLEM SOLVING - CONGRESSES
1	PROGRAM BUDGETING - U.S.
1	PROGRAM BUDGETING-UNITED STATES.
1	PROGRESSIVE CONSERVATIVE PARTY (O
1	PROJECTION (PSYCHOLOGY)
1	PROJECTIVE TECHNIQUES
1	PROPAGANDA, ANTI-AMERICAN
1	PROPERTY TAX - PAKISTAN
1	PROPERTY TAX - UNITED STATES
1	PROVINCE - HISTORY
1	PRUDENCE
1	PSYCHIATRY
25	PSYCHOANALYSIS
1	PSYCHOANALYSIS - ADDRESSES, ESSAY
1	PSYCHOANALYSIS-ADDRESSES, ESSAYS,
2	PSYCHOLOGICAL RESEARCH
1	PSYCHOLOGICAL RESEARCH - ADDRESSE
32	PSYCHOLOGY
6	PSYCHOLOGY - ADDRESSES, ESSAYS, L
1	PSYCHOLOGY - COLLECTED WORKS
1	PSYCHOLOGY - COLLECTIONS
1	PSYCHOLOGY - CONGRESSES
1	PSYCHOLOGY - HANDBOOKS, MANUALS,
3	PSYCHOLOGY - HISTORY
1	PSYCHOLOGY - HISTORY - AFRICA
1	PSYCHOLOGY - HISTORY - RUSSIA
1	PSYCHOLOGY - HISTORY - U.S.
2	PSYCHOLOGY - MATHEMATICAL MODELS
3	PSYCHOLOGY - METHODOLOGY
1	PSYCHOLOGY - STUDY AND TEACHING
1	PSYCHOLOGY - TERMINOLOGY
1	PSYCHOLOGY AS A PROFESSION
1	PSYCHOLOGY IN MOVING-PICTURES
4	PSYCHOLOGY, APPLIED
2	PSYCHOLOGY, APPLIED - ADDRESSES,
1	PSYCHOLOGY, APPLIED - HISTORY
4	PSYCHOLOGY, COMPARATIVE
2	PSYCHOLOGY, EXPERIMENTAL
1	PSYCHOLOGY, INDUSTRIAL
7	PSYCHOLOGY, PATHOLOGICAL
7	PSYCHOLOGY, PHYSIOLOGICAL
1	PSYCHOLOGY, PHYSIOLOGICAL - HISTO
1	PSYCHOLOGY, RELIGIOUS.
8	PSYCHOMETRICS
1	PSYCHOPHARMACOLOGY.
4	PSYCHOTHERAPY
1	PUBLIC LANDS
1	PUBLIC RELATIONS - THEATER
1	PUPPETS AND PUPPET-PLAYS
1	PUPPETS AND PUPPET-PLAYS - JAPAN
1	PURITY, RITUAL
1	PURVEYANCE
1	PUSLINCH ONT. (TOWNSHIP)
3	RACE
1	RACE - COLLECTIONS
1	RACE AWARENESS
1	RADIO BROADCASTING
1	REACTION-TIME
1	REAL ESTATE BUSINESS FINANCE.
1	REAL PROPERTY TAX - U.S.
1	REAL PROPERTY TAX - UNITED STATES
1	REAL PROPERTY UNITED STATES CONGR
3	REASONING
1	RECREATION - U.S. - ADDRESSES, ES
1	RED LAKE DISTRICT, ONT.
2	RED LAKE, ONT. - HISTORY
13	REGIONAL PLANNING
1	REGIONAL PLANNING - AFRICA, EAST
1	REGIONAL PLANNING - CANADA - ADDR
1	REGIONAL PLANNING - CONGRESSES
1	REGIONAL PLANNING - ESSEX, ENG.
1	REGIONAL PLANNING - GT. BRIT.
1	REGIONAL PLANNING - ISRAEL
3	REGIONAL PLANNING - LONDON METROP
4	REGIONAL PLANNING - MATHEMATICAL
1	REGIONAL PLANNING - MICHIGAN
1	REGIONAL PLANNING - NEW YORK (STA
4	REGIONAL PLANNING - NOVA SCOTIA -
1	REGIONAL PLANNING - SANTA CRUZ CO
1	REGIONAL PLANNING - STOCKHOLM MET

3	REGIONAL PLANNING - STUDY AND TEA
2	REGIONAL PLANNING - SWEDEN
1	REGIONAL PLANNING - U.S. - CONGRE
1	REGIONAL PLANNING - UNITED STATES
1	REGIONAL PLANNING - WALES
1	REGIONAL PLANNING - WASHINGTON, D
1	REGIONAL PLANNING - WINNIPEG METR
1	REGIONAL PLANNING-MATHEMATICAL MO
1	REGIONAL PLANNING-NOVA SCOTIA CON
1	REICH, WILHELM, 1897-1957
1	REINFORCEMENT (PSYCHOLOGY)
1	RELIEF (SCULPTURE)
1	RELIGION - ADDRESSES, ESSAYS, LEC
2	RELIGION, PRIMITIVE
1	REMOTE SENSING SYSTEMS
2	RENFREW CO., ONT. - HISTORY
1	RENOIR, JEAN, 1894-
1	RESEARCH, INDUSTRIAL - ADDPESSES,
1	RESPONSE SET
1	RESPONSIBILITY
1	REVENUE - IRELAND
1	REVOLUTIONISTS
1	REVOLUTIONS
1	RICHARDS, IVOR ARMSTRONG, 1893-
2	RITES AND CEREMONIES
1	RITES AND CEREMONIES - POLYNESIA
1	RITES AND CEREMONIES ADDRESSES, E
1	ROBINSON, (SIR) JOHN BEVERLEY, 17
1	ROMAN EMPERORS
1	ROMANTICISM - ENGLAND
1	ROME (CITY) SANTA PRISCA (CHURCH)
2	ROME - BIOGRAPHY
8	ROME - CIVILIZATION
1	ROME - CONSTITUTIONAL HISTORY
1	ROME - FOREIGN OPINION, GREEK
11	ROME - HISTORY
1	ROME - HISTORY - ABORIGINAL AND E
1	ROME - HISTORY - AUGUSTUS, 30 B.C
1	ROME - HISTORY - CONSPIRACY OF CA
1	ROME - HISTORY - EMPIRE, 284-476
1	ROME - HISTORY - EMPIRE, 30 B.C.
6	ROME - HISTORY - EMPIRE, 30 B.C.-
1	ROME - HISTORY - FLAVIANS, 69-96
1	ROME - HISTORY - HISTORIOGRAPHY
3	ROME - HISTORY - REPUBLIC, 265-30
1	ROME - HISTORY - REPUBLIC, 266-30
2	ROME - HISTORY - REPUBLIC, 510-30
1	ROME - HISTORY - THE FIVE JULII,
1	ROME - NOBILITY
1	ROME - POLITICS AND GOVERNMENT
2	ROME - POLITICS AND GOVERNMENT -
1	ROME - PROVINCES
1	ROME - PROVINCES - ADMINISTRATION
2	ROME - RELIGION
1	ROME - SOCIAL CONDITIONS
1	ROME - SOCIAL LIFE & CUSTOMS
4	ROME - SOCIAL LIFE AND CUSTOMS
1	ROME-SOCIAL LIFE AND CUSTOMS,
2	RORSCHACH TEST
1	RORSCHACH TESTS
1	ROSSELLINI, ROBERTO, 1906-
1	ROYAL TOWN PLANNING INSTITUTE
1	RUGS, CHINESE
1	RUGS, ORIENTAL
1	RUSSELL, LILLIAN, 1861-1922
4	RYERSON, ADOLPHUS EGERTON, 1803-1
1	SAINT-GAUDENS, AUGUSTUS, 1848-190
1	SAINT-GILLES, FRANCE (GARD) (CHUR
1	SARAWAK TOWNSHIP, ONT., HISTORY
1	SAUGEEN VALLEY
1	SCARBORO, ONTARIO - HISTORY
1	SCARBOROUGH, ONT. HISTORY
1	SCHMECKEBIER, LAURENCE ELI, 1906-
2	SCIENCE - METHODOLOGY
2	SCIENCE - PHILOSOPHY
1	SCIENCE - SOCIAL ASPECTS - ADDPES
1	SCIENCE AND ETHICS
1	SCIPIO AFRICANUS MAJOR, PUBLIUS C
2	SCOTCH IN ELGIN CO., ONT.
1	SCULPTORS, AMERICAN
1	SCULPTURE
1	SCULPTURE - IFE
1	SCULPTURE - INDIA
1	SCULPTURE - KHAJRA HD, INDIA
1	SCULPTURE - SAINT-GILLES, FRANCE
2	SCULPTURE, AFRICAN
1	SCULPTURE, AMERICAN
1	SCULPTURE, AMERICAN - HISTORY
1	SCULPTURE, FRENCH - UNITED STATES
1	SCULPTURE, GREEK
1	SCULPTURE, INDIC - HISTORY
1	SCULPTURE, MODERN - 19TH CENTURY
1	SCULPTURE, PRIMITIVE
1	SCULPTURE, PRIMITIVE - AFRICA
1	SCULPTURE, PRIMITIVE - AFRICA, WE
1	SCULPTURE, ROMANESQUE - SAINT-GIL
1	SCULPTURE, SUMERIAN
1	SCULPTURE, YUGOSLAV
1	SEASHORE
1	SEELEY'S BAY, ONT.
1	SEGREGATION IN EDUCATION
1	SELF - ADDRESSES, ESSAYS, LECTURE
1	SELF-CONTROL - ADDRESSES, ESSAYS,
1	SELF-DISCLOSURE
1	SELF-EVALUATION
1	SELF-LOVE (PSYCHOLOGY)
1	SELF-ORGANIZING SYSTEMS
1	SELF-PERCEPTION
1	SELF-REALIZATION
1	SELLERS, PETER, 1925-
1	SEMANTICS (PHILOSOPHY)
1	SEMITES
1	SEMPLE, WILLIAM CAMPBELL, 1879-19
1	SENSES AND SENSATION
1	SEPULCHRAL MONUMENTS - NEW ENGLAN
1	SEPULCHRAL MONUMENTS - SCOTLAND -
1	SERVICE INDUSTRIES - ONTARIO
1	SEVERN VALLEY, ONT. HISTORY
1	SEX (PSYCHOLOGY)
1	SEX DIFFERENCES (PSYCHOLOGY)
1	SEX IN ART
1	SEX IN MOVING-PICTURES

1	SEX ROLE
1	SHAKERS - INDUSTRIES
3	SHAKESPEARE, WILLIAM - STAGE HIST
1	SHAKESPEARE, WILLIAM, 1564-1616 -
1	SHOPPING CENTERS
1	SHORE-LINES
1	SICILY - HISTORY - TO 800
1	SILVER ARTICLES, IRISH
1	SILVERSMITHING - IRELAND
2	SIMCOE CO., ONT. - BIOGRAPHY
3	SIMCOE CO., ONT. - HISTORY
1	SIMCOE, ONT. - HISTORICAL GEOGRA
4	SIMCOE, JOHN GRAVES, 1752-1806
1	SIMILARITY (PSYCHOLOGY)
1	SIRSI, INDIA ECONOMIC CONDITIONS.
1	SKIN
1	SKYSCRAPERS
1	SMALL GROUPS
1	SMALL GROUPS - ADDRESSES, ESSAYS.
1	SMALL GROUPS - CASE STUDIES
1	SMUGGLING
1	SOCIAL ACTION
1	SOCIAL CHANGE
2	SOCIAL CHANGE - ADDRESSES, ESSAYS
1	SOCIAL CHANGE,
1	SOCIAL CONFLICT-ADDRESSES, ESSAYS
2	SOCIAL CONFLICT.
1	SOCIAL CONTROL
1	SOCIAL ETHICS
3	SOCIAL GROUPS
1	SOCIAL HISTORY - ADDRESSES, ESSAY
1	SOCIAL HISTORY - 1945-
1	SOCIAL INSTITUTIONS
4	SOCIAL INTERACTION
3	SOCIAL PARTICIPATION
3	SOCIAL PERCEPTION
1	SOCIAL PROBLEMS
6	SOCIAL PSYCHOLOGY
1	SOCIAL PSYCHOLOGY - MATHEMATICAL
1	SOCIAL ROLE
2	SOCIAL SCIENCE RESEARCH
1	SOCIAL SCIENCE RESEARCH - ADDRESS
1	SOCIAL SCIENCES - ADDRESSES, ESSA
1	SOCIAL SCIENCES - METHODOLOGY
1	SOCIAL SCIENCES,
3	SOCIAL STRUCTURE
1	SOCIAL SYSTEMS - ADDRESSES, ESSAY
1	SOCIAL VALUES
2	SOCIALIZATION
4	SOCIETY, PRIMITIVE
1	SOCIETY, PRIMITIVE-ADDRESSES, ESS
1	SOCIOLOGICAL JURISPRUDENCE
1	SOCIOLOGICAL JURISPRUDENCE - ADDR
1	SOCIOLOGICAL RESEARCH
1	SOCIOLOGICAL RESEARCH - ADDRESSES
15	SOCIOLOGY
5	SOCIOLOGY - ADDRESSES, ESSAYS, LE
1	SOCIOLOGY - COLLECTIONS
3	SOCIOLOGY - HISTORY
1	SOCIOLOGY - HISTORY - POLAND - AD
1	SOCIOLOGY - HISTORY - U.S.
1	SOCIOLOGY - MATHEMATICAL MODELS
3	SOCIOLOGY - METHODOLOGY
1	SOCIOLOGY - METHODOLOGY - ADDRESS
2	SOCIOLOGY.
3	SOCIOLOGY, URBAN
2	SOCIOLOGY, URBAN - ADDRESSES, ESS
1	SOCIOLOGY, URBAN - CASE STUDIES
1	SOCIOLOGY, URBAN - CONGRESSES
1	SOCIOLOGY, URBAN - STUDY AND TEAC
1	SOMATOLOGY
1	SOMERVILLE TOWNSHIP, ONT.-BIOGRAP
1	SOMERVILLE TOWNSHIP, ONT.-HISTORY
1	SONORAN DESERT
1	SPACE (ARCHITECTURE)
1	SPACE-PERCEPTION
1	SPARTA - HISTORY
1	SPEECH (PSYCHOLOGY)
1	SPENCER CREEK VALLEY, ONT. - HIST
1	STANDING POSITION
2	STANISLAVSKII , KONSTANTIN SERGEI
1	STANISLAVSKY METHOD
1	STEVENSON, CHARLES LESLIE, 1908-
1	STIMULUS GENERALIZATION
1	STORMONT CO., ONT. - HISTORY
2	STRESS (PHYSIOLOGY)
1	STRING-FIGURES
1	STUDENTS
1	SUBLIME, THE
1	SUBSIDIES UNITED STATES CONGRESSF
1	SUBURBAN HOMES - GREAT BRITAIN
3	SUCCESS
1	SUPER-EGO
1	SUPERIOR, LAKE - DESCRIPTION
1	SUPPLY AND DEMAND
1	SUREALISM
1	SVOBODA, JOSEF, 1920-
1	SYDNEY, N.S.
1	SYLLOGISM
2	SYMBOLISM
1	SYMBOLISM (PSYCHOLOGY)
1	SYMBOLISM-ADDRESSES, ESSAYS, LECT
1	SYMBOLISM IN ART
1	SYMPATHY
1	SYSTEM ANALYSIS
1	SYSTEM THEORY
1	T'AI-CHUNG, FORMOSA (CITY) - ECON
1	TABLEAUX
2	TABOO
1	TALBOT, THOMAS, 1771-1853
1	TANZANIA - SOCIAL LIFE AND CUSTOM
1	TARIFF - GT. BRIT. - HISTORY
1	TARIFF - GT. BRIT. - LAW
1	TARIFF - IRELAND - LAW
1	TARO CULT
1	TAX ADMINISTRATION AND PROCEDURE
1	TAX AUDITING - UNITED STATES
1	TAX EVASION - UNITED STATES
1	TAXATION
1	TAXATION - CANADA
1	TAXATION - GREAT BRITAIN - HISTOR
1	TAXATION - INDIA

1 TAXATION - INDIA - LAW
1 TAXATION - JAPAN - LAW
1 TAXATION - PAKISTAN
1 TAXATION - TURKEY
1 TAXATION - U.S.
1 TAXATION-CANADA
1 TAXATION, EXEMPTION FROM - U.S.
1 TAXATION, EXEMPTION FROM - U.S. -
1 TAXATION, EXEMPTION FROM - UNITED
1 TECHNOLOGICAL FORECASTING
1 TECHNOLOGY - SOCIAL ASPECTS
2 TECHNOLOGY AND CIVILIZATION
2 TECHNOLOGY AND CIVILIZATION - ADD
1 TEILHARD DE CHARDIN, PIERRE
2 TELEVISION - PRODUCTION AND DIREC
1 TELEVISION BROADCASTING
1 TELEVISION PLAYS - TECHNIQUE
1 TELL ASMAR, IRAQ
1 TEMPLES - INDIA
1 TEMPLES - INDIA - KHAJRA HO
1 TEMPLES, ROMAN
1 TENNESSE SELF CONCEPT SCALE
1 TERRY, (DAME) ELLEN, 1848-1928
1 THE PERFORMANCE GROUP
1 THEATE- - INDIA
10 THEATER
9 THEATER - ADDRESSES, ESSAYS, LECT
1 THEATER - AFRICA, SUB-SAHARAN
1 THEATER - ASIA, SOUTHEASTERN
1 THEATER - CENSORSHIP
1 THEATER - CHARLESTON, S.C. - HIST
1 THEATER - CHINA
1 THEATER - DICTIONARIES
1 THEATER - DUBLIN - HISTORY
2 THEATER - ENGLAND
4 THEATER - ENGLAND - HISTORY
2 THEATER - FRANCE - HISTORY
2 THEATER - GERMANY
1 THEATER - GERMANY - HISTORY
1 THEATER - GREAT BRITAIN
1 THEATER - GREAT BRITAIN - HISTORY
1 THEATER - GT. BRIT.
4 THEATER - GT. BRIT. - HISTORY
1 THEATER - GT. BRIT. - LAWS AND RE
1 THEATER - HAMBURG
4 THEATER - HISTORY
1 THEATER - HISTORY - 20TH CENTURY
1 THEATER - JAPAN
2 THEATER - LITTLE THEATER MOVEMENT
1 THEATER - LONDON
3 THEATER - LONDON - HISTORY
1 THEATER - LONDON - REVIEWS
1 THEATER - MORAL AND RELIGIOUS ASP
1 THEATER - MOSCOW
1 THEATER - NEW YORK (CITY)
2 THEATER - NEW YORK (CITY) - HISTO
1 THEATER - NEWARK, N.J. - HISTORY
1 THEATER - PARIS - HISTORY
1 THEATER - POLAND
2 THEATER - POLITICAL ASPECTS
6 THEATER - PRODUCTION AND DIRECTIO

1 THEATER - PSYCHOLOGICAL ASPECTS
3 THEATER - RUSSIA
1 THEATER - RUSSIA - HISTORY
1 THEATER - SPAIN - HISTORY
1 THEATER - STAGE-SETTING AND SCENE
1 THEATER - STUDY AND TEACHING
8 THEATER - U.S.
2 THEATER - U.S. - HISTORY
1 THEATER - U.S. - HISTORY - PICTOR
1 THEATER - UNITED STATES
1 THEATER - UNITED STATES - HISTORY
1 THEATER - VIENNA - HISTORY
1 THEATER PRODUCTION AND DIRECTION
5 THEATERS - STAGE-SETTING AND SCEN
1 THEATERS-STAGE-SETTING AND SCENER
1 THEATRE - IRELAND
1 THEATRE - ITALY - HISTORY
1 THEATRE - STRATFORD, ONT.
1 THEATRE AUDIENCES
1 THEATRE GUILD
1 THEMATIC APPERCEPTION TEST
1 THEORY (PHILOSOPHY)
1 THERA (ISLANDS)
1 THOROLD TOWNSHIP, ONT. - HISTORY
5 THOUGHT AND THINKING
1 THOUGHT AND THINKING-HISTORY.
2 THUCYDIDES
1 THUCYDIDES. DE BELLO PELOPONNESIA
1 THURLOW TOWNSHIP, ONT.
1 TIBERIUS, EMPEROR OF ROME, 42 b.
1 TIKOPIANS
1 TOMBS
1 TOMBS - ETRURIA
1 TORONTO - BIOGRAPHY
2 TORONTO - HISTORY
1 TORONTO, ONT. - HARBOR
1 TORONTO, ONT. - HISTORY
1 TORONTO, ONT. - OFFICE BUILDINGS
1 TORONTO, ONT. UNIVERSITY. DEPT. C
1 TOTEMISM
1 TOUCH
1 TOY THEATERS
2 TRAFFIC ENGINEERING - WASHINGTON,
5 TRAGEDY
3 TRAGEDY - HISTORY AND CRITICISM
1 TRAGIC, THE
1 TRAILER CAMPS CONGRESSES
1 TREASON - GREECE
1 TRENT CANAL
1 TRENT RIVER VALLEY, ONT.
1 TRENT RIVER VALLEY, ONT. - DESCRI
1 TRENT RIVER VALLEY, ONT. - HISTORY
1 TRISTAN
1 TRUFFAUT, FRANCOIS
1 TRUSTS AND TRUSTEES - TAXATION -
1 TRUTHFULNESS AND FALSEHOOD
1 TSWANA (BANTU TRIBE)
1 TWINS
1 U.S. - EMIGRATION AND IMMIGRATION
1 U.S. - HISTORY - REVOLUTION - SUP
1 U.S. - HISTORY - WAR OF 1812 - PE

1 U.S. - RACE QUESTION
1 U.S. - SOCIAL CONDITIONS
1 U.S. - SOCIAL LIFE AND CUSTOMS
2 U.S. - SOCIAL POLICY
1 U.S. DEPT. OF HOUSING AND URBAN D
1 U.S. HISTORY REVOLUTION REGIMENTA
1 U.S. INTERNAL REVENUE SERVICE
1 UKIYOE
1 UNDERDEVELOPED AREAS
2 UNDERDEVELOPED AREAS - CITY PLANN
1 UNDERDEVELOPED AREAS - FINANCE. P
1 UNDERDEVELOPED AREAS - FRANCE
1 UNDERDEVELOPED AREAS - SQUATTERS
5 UNDERDEVELOPED AREAS - URBANIZATI
2 UNITED EMPIRE LOYALISTS
1 UNITED NATIONS. SPECIAL FUND
1 UNITED STATES - ECONOMIC POLICY -
1 UNITED STATES - SOCIAL CONDITIONS
1 URBAN ECONOMICS-CONGRESSES.
3 URBAN RENEWAL
1 URBAN RENEWAL - ADDRESSES. ESSAYS
2 URBAN RENEWAL - AUSTRALIA
1 URBAN RENEWAL - AUSTRALIA - ADDRE
1 URBAN RENEWAL - BLANDFURD FORUM,
1 URBAN RENEWAL - CANADA
1 URBAN RENEWAL - CASE STUDIES
1 URBAN RENEWAL - CHICHESTER. ENG.
3 URBAN RENEWAL - CITIZEN PARTICIPA
1 URBAN RENEWAL - CONGRESSES
1 URBAN RENEWAL - EAST OF BAY, TORO
1 URBAN RENEWAL - EAST ST. LOUIS. I
1 URBAN RENEWAL - FINANCE
1 URBAN RENEWAL - FORT WILLIAM. ONT
1 URBAN RENEWAL - GREAT BRITAIN
1 URBAN RENEWAL - GT. BRIT.
1 URBAN RENEWAL - LIVERPOOL, ENG.
1 URBAN RENEWAL - ONT.
2 URBAN RENEWAL - ONTARIO
1 URBAN RENEWAL - PITTSBURGH
14 URBAN RENEWAL - U.S.
2 URBAN RENEWAL - U.S. - ADDRESSES.
1 URBAN RENEWAL - U.S. - CONGRESSES
1 URBAN RENEWAL - U.S. - HISTORY
3 URBAN RENEWAL - UNITED STATES
1 URBAN RENEWAL-ONTARIO. SOUTHERN
1 URBAN RENEWAL-UNITED STATES CASE
1 URBAN TRANSPORTATION - LONDON
2 URBAN TRANSPORTATION - U.S.
1 URBAN TRANSPORTATION-INDIA.
1 URBANA, ILL. - CIVIC IMPROVEMENT
2 URBANIZATION
1 URBANIZATION - ADDRESSES. ESSAYS.
1 URBANIZATION - CUBA
1 URBANIZATION - FRANCE - ADDRESSES
1 URBANIZATION - GT. BRIT.
1 URBANIZATION - INDIA
1 URBANIZATION - LATIN AMERICA - CO
1 URBANIZATION - SAN JOSE, CALIF.
1 URBANIZATION - SWEDEN
1 URBANIZATION - U.S. - ADDRESSES.
1 URBANIZATION - WALES

1 URBANIZATION - WINNIPEG METROPOLI
1 URBANIZATION-NIGERIA CONGRESSES.
1 UTILITARIANISM
1 UXBRIDGE, ONT.
1 UXBRIDGE, ONT.-HISTORY
1 VAKHTANGOV, EVGENII BOGRATIONOVIC
1 VALUE-ADDED TAX - HAWAII
1 VANCOUVER, B.C.
1 VASE PAINTING, GREEK - ATHENS
1 VAUGHAN TOWNSHIP, ONT. HISTORY
1 VEGA CARPIO, LOPE FE LIX DE, 1562
1 VESTRIS, LUCIA ELIZABETH, 1797-18
2 VICTORIA CO., ONT. - HISTORY
1 VIGELAND, GUSTAV
1 VIGILANCE (PSYCHOLOGY)
1 VISION
2 VISUAL PERCEPTION
1 VISUALIZATION
1 VON STROHEIM, ERICH, 1885-1957
1 WALL-PAPER - HISTORY
1 WALLIS, WILSON DALLAM, 1886-
1 WAR
1 WASHINGTON, D.C. MONUMENTS.
1 WATERFRONTS
1 WATERFRONTS - ONTARIO - TORONTO
1 WATERLOO CO., ONT. - HISTORY
1 WATERLOO COUNTY, ONT.
1 WATERLOO COUNTY, ONT. BIOGRAPHY
1 WATERLOO COUNTY, ONT. HISTORY
1 WAWA AREA
1 WEALTH
1 WEBER, MAX, 1864-1920
1 WELLAND CO., ONT. - HISTORY - SOC
1 WELLAND COUNTY, ONT.
1 WELLAND COUNTY, ONT. BIOGRAPHY
1 WELLAND COUNTY, ONT. HISTORY
2 WELLINGTON CO., ONT.
1 WELLMAN, WILLIAM AUGUSTUS, 1896-
1 WENTWORTH CO., ONT. - HISTORIC HO
1 WEST BENGAL, INDIA. CALCUTTA METR
1 WESTERN FILMS - HISTORY AND CRITI
1 WESTMINSTER THEATRE, LONDON
2 WILL - ADDRESSES, ESSAYS, LECTURE
1 WILMOT TOWNSHIP
1 WINDSOR, ONT. - HISTORY
1 WINTER RESORTS - CALIFORNIA - CAS
1 WITCHCRAFT - AFRICA
1 WITTGENSTEIN, LUDWIG, 1889-1951 -
1 WITTGENSTEIN, LUDWIG, 1889-1951.
1 WOFFINGTON, MARGARET, D. 1760
1 WOLFE ISLAND, ONT.
1 WOLFE ISLAND, ONT. BIOGRAPHY
1 WOLFE ISLAND, ONT. HISTORY
1 WOMAN
1 WOMAN - PSYCHOLOGY
1 WOOD-ENGRAVERS JAPAN
1 WOOD-ENGRAVINGS, CHINESE
1 WOODLAWN ORGANIZATION
1 WORK PSYCHOLOGICAL ASPECTS.
1 WORLD WAR, 1939-1945 - FINANCE -
4 WORTH

1 YALE UNIVERSITY. MABEL BRADY GARV
1 YOGA
1 YORK CO., ONT. - BIOGRAPHY.
2 YORK CO., ONT. - HISTORY
1 ZAKROS SITE, CRETE
1 ZIMBABWE, MASHONALAND
1 ZONING - EAST YORK, ONT.
1 ZONING - MASSACHUSETTS
1 ZONING - U.S.
1 ZONING - U.S. - ADDRESSES, ESSAYS
4 ZONING - UNITED STATES
1 ZONING - UNITED STATES - ADDRESSE
1 ZONING - UNITED STATES - CONGRESS
1 ZONING LAW - U.S.
1 ZONING LAW-UNITED STATES.
1 ZONING-UNITED STATES.

APPENDIX IV.A

B O O K S

A R E

F O R U S E

A User Guide for the BOOKS File on SDC/ORBIT

A Project of the

SUBJECT ACCESS PROJECT
Syracuse University
School of Information Studies
113 Euclid Avenue
Syracuse, N.Y. 13210

Prepared by Jeffrey Simon & Pauline Atherton
(September, 1977)

Comments are Welcome!

CONTENTS

	Page
Introduction	2
What is BOOKS in ORBIT???	3
BOOKS File: Use of ORBIT Features	6
TIPS ON SEARCHING	
I. Numeric or Alpha-Numeric Fields	7
II. Word Searchable Fields	8
III. Terms and Phrases	10
Figure 1. Explanation of BOOKS Record and Its Accessibility on ORBIT	4
Figure 2. Sample of BOOKS Record on ORBIT	4
Figure 3. BOOKS Category and List Relationships	5
Table 1. Word Searching Hints	10
Table 2. Phrase Searching Hints	11

PREFACE

We have used Ranganathan's First Law of Library Science as a title for this guide. It seems appropriate to recall this law and the other four as we begin to experiment with the new version of library catalogs -- online subject access to library collections. The laws of library science, promulgated in 1931 by S.R. Ranganathan,[1] the Father of Library Science in India, are as follows:

Books Are for Use

Every Reader His Book

Every Book Its Reader

Save the Time of the Reader (and the Staff)

A Library is a Growing Organism

Ranganathan died in 1972 at the age of 81, but the force of his laws can carry a new generation of librarians to seek solutions to the problems associated with the implementation of these laws. On my visit to India in 1970, at his request, I brought news to his students and colleagues about computer-based library services and research. At that time I reported about MARC and LEEP.[2] Now we can go beyond these early beginnings and envision national and international online networks to access the world's library collections from any location where a telephone, electrical outlet and computer terminal can be placed.

This guide is dedicated to Ranganathan's memory and vision which has guided me and my students through our professional careers. Its publication date marks the fifth anniversary of his passing.

Pauline Atherton

Syracuse, Sept. 1977

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[1] S.R. Ranganathan, Five Laws of Library Science. Delhi: Asia Publishing House, 1931.

[2] Pauline Atherton, Putting Knowledge to Work; An American View of Ranganathan's Five Laws of Library Science. Delhi: Vikas, 1973.

INTRODUCTION

BOOKS is a new version of an online catalog to a sample library book collection. It is not any one library's collection per se (although we chose the titles by means of a random selection of the English language monographs in the classified lists of the holdings of the University of Toronto). It is meant to represent what a library catalog for a single library or a group of libraries could look like if we attempted to describe the subject contents of our book collections.

Bibliographic records in present-day online catalogs (lccc on SCORPIO, OCLC, Ballots, UTLAS, etc.) are mainly physical or bibliographical descriptions of library materials, with subject headings not subject descriptions. What reference librarians can now do to search online for the journal and report literature of several subject fields, they cannot do for the book literature in those fields. ERIC, NTIS, MEDLINE, COMPENDEX, INSPEC, PSYCH. ABSTRACTS, INFORM, etc. are online databases which do not primarily abstract and index the book literature of their respective fields.

Our project at Syracuse University, the Subject Access Project, has created a database for the book literature in ten fields of the social sciences and humanities. The Council on Library Resources funded the project for one and a half years in the hope that the library profession could learn something about the cost/effectiveness of augmenting subject descriptions for online subject searching of library catalogs.

We hope you will try BOOKS on ORBIT, considering it to be a prototype of what your own library or your library network's catalog could be. Once you have searched and found some titles, it will still be necessary for you to check your library catalog for your holdings of the titles in the BOOKS file, but even with this inconvenience and two-step look-up we think you will agree that "BOOKS are for use."

If you are interested in the procedures we followed to produce the records in the BOOKS file, please refer to another Subject Access Project publication by Barbara Settel, "SUBJECT DESCRIPTION OF BOOKS: A Manual of Procedures for Augmenting Subject Descriptions in Library Catalogs," available from us for $5.00.

P.S. We assume that users of BOOKS are trained SDC/ORBIT searchers. This guide will not explain basic ORBIT commands or features. For aid we recommend ORBIT Training Sessions and Manuals to you.

WHAT IS BOOKS IN ORBIT???

(a) It's a file of approximately 2,000 books in English taken as a random sample of a large research library's holdings in ten classes of the L.C. Classification:

HUMANITIES

1. Philosophy:
   BC Logic
   BH Aesthetics
   BJ Ethics

2. History:
   DE Graeco-Roman World
   DF Ancient Greece
   DG Ancient Italy
   Rome to 476

3. Arts:
   NB Sculpture
   NE Engraving
   NK Art Applied to Industry
   Decoration & Ornament

4. Literature:
   PN 1560-3300 Drama

5. Post Confederation
   Ontario History:
   F 5520-5547

SOCIAL SCIENCES

6. Psychology:
   BF 1-990

7. Anthropology:
   GN 1-696

8. Public Finance:
   HJ

9. Sociology:
   HM 1-221

10. Urban Planning
    Urban Redevelopment:
    HT 166-177

(b) The BOOKS database has this profile of its contents:

1) ANTHROPOLOGY (LC Class: GN 1-696), 131 books.
   Ethnology, Man, Kinship, Primitive Societies, Rites and Ceremonies, Human Evolution, various tribes (e.g., Maoris, etc.), Race, Anthropometry.

2) ARTS (LC Class: NB, NE, NK), 124 books.
   Sculpture, Art Objects, Pottery, Greek Bronzes, Glassware, Engravings, Batik, Handicraft, Color Prints, Medicine Bottles, Porcelain, Metal Work, etc.

3) DRAMA (LC Class: PN 1560-3300), 256 books.
   Theater, Moving Pictures, Drama, Television Plays, Production and Direction, Aesthetics, Stage Setting and Scenery, Acting, Actors, Actresses, Western Films, Melodrama, Tragedy, Historical Drama, French Drama, Dancing, etc.

4) GRAECO-ROMAN CIVILIZATION (LC Class: DE, DF, DG), 130 books.
   Greece, Rome, Civilization, Politics and Government, Social Life and Customs, Architecture, Athens, Hellenism, Antiquities, Delphian Oracle, etc.

5) ONTARIO (CANADA) HISTORY, POST CONFEDERATION (LC Class: F 5520-5547), 179 books.
   Ontario History, Politics and Government, Canadian Social Life and Customs, Indian Trails, Boats and Boating, Land Settlement, etc.

6) PHILOSOPHY (LC Class: BC, BH, BJ), 139 books.
   Logic, Ethics, Conduct of Life, Good and Evil, Free Will and Determinism, Aesthetics, Art and Science, Thought and Thinking, Reasoning, etc.

7) PSYCHOLOGY (LC Class: BF 1-990), 319 books.
   Emotions, Personality, Child Study, Perception, Consciousness, Mental Tests, Motivation (Psychology), Adolescence, Infants, Personality Tests, etc.

8) PUBLIC FINANCE (LC Class: HJ), 114 books.
   Taxation, Budget, Fiscal Policy, Income Tax, Value Added Tax, Grants-in-Aid, Inheritance and Transfer Tax, Municipal Finance, Tariff, Tax Evasion, etc.

9) SOCIOLOGY (LC Class: HM 1-221), 140 books.
   Social Conflict, Social Change, Technology and Civilization, Power (Social Science), Social Interaction, etc.

10) URBAN PLANNING (LC Class: HT 166-177), 447 books.
    Planning, Cities and Towns, Urban Renewal, Regional Planning, Green Belts, Land, Housing, Zoning, Waterfronts, Urban Transportation, etc.

Figure 1. Explanation of BOOKS Record And Its Accessibility on ORBIT

SDC/ORBIT CATEGORY NAME	ABBREVIATION	SEARCHABLE	STANDARD PRINT COMMANDS* PRINT	TRIAL	FULL
Accession Number (Record Serial Number)	RSN	x		x	x
SAP Number	SNO	x		x	x
Call Number (LC or U of T)	CCN	x	x	x	x
Main Entry	ME	x	x	x	x
Title	TI	x	x	x	x
Imprint	IM	-	x		x
Collation	COL	-	x	-	x
Publication Year	PY	x		x	x
Subject Headings (LCSH)	LCH	x (as LCH, LCT)	x	x	x
Contents Terms	CT	x (as CT...)			x
Index Terms	IT	x (as IT...)			x

*Remember you can INCLUDE or EXCLUDE any category in any PRINT command.

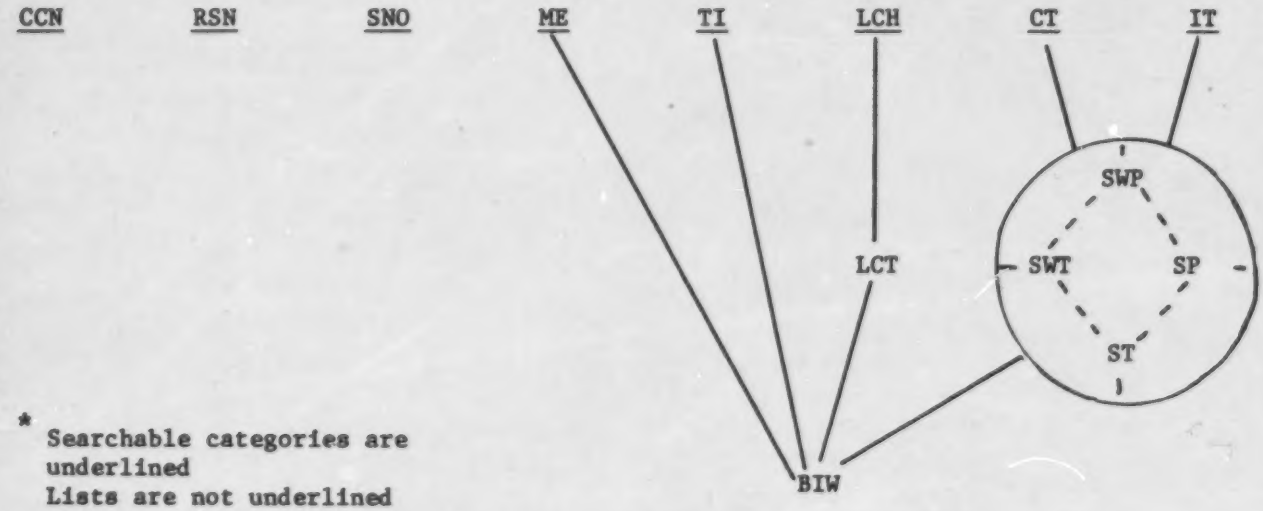
Figure 2. Sample of BOOKS Record on ORBIT

RSN - 00618606
SNO - 1080
CCN - BH221 R93 W47
ME - West, James D.
TI - Russian symbolism; a study of Vyacheslav Ivanov and the Russian symbolist aesthetic.
IM - London, Methuen, 1970
COL - 250p.
PY - 1970
LCH - Ivanov, Viacheslav Ivanovich, 1866-1949: Aesthetics, Russian
LCH - Symbolism in art
CT - *NINETEENTH CENTURY (P. 5-47) ; VISSARION GRIGOREVICH BELINSKY (P. 6-11) ; APOLLON ALEKSANDROVICH GRIGOREV (P. 16-20) ; LEV NIKOLAYEVICH TOLSTOY (P. 21-26) ; ALEKSANDR MIKHAYLOVICH SKABICHEVSKY (P. 27-34) ; VLADIMIR SOLOVYOV (P. 35-41)
CT - *VYACHESLAV IVANOV'S PHILOSOPHY OF ART (P. 48-106) ; ELEMENTS IN CONTEMPORAY SYMBOLISM (P. 50-57) ; ART AND THEORY OF KNOWLEDGE (P. 58-65) / SELF KNOWLEDGE (P. 61-65) ; ART AND COMMUNICATION (P. 66-87) / POET AND CROWD (P. 71-75) / MYTH OF DIONYSUS (P. 77-81) ; ART AND REALITY (P. 88-92) ; IVANOV AND CASSIRER (P. 93-106)
CT - *SYMBOLIST DEBATE (P. 107-180) ; ART AND LIFE (P. 116-131) / LITERATURE AND LIFE (P. 116-120) / INDIVIDUALISM AND TRADITION OF SOCIAL COMMITMENT (P. 121-126) / RETREAT FROM INDIVIDUALISM (P. 127-131) ; ART AND COMMUNICATION (P. 132-145) ; ART AND REALITY (P. 146-180) / INTERPRETATION OF REALISM (P. 153-161) / ART AND THEORY OF KNOWLEDGE (P. 162-169) / TRANSFORMATION OF REALITY (P. 172-180); *POETRY AND THE ABSOLUTE (P. 181-190)
IT - BELY A BUGAYEV B N; BRYUSOV V YA RUSSIAN SYMBOLIST
IT - CHULKOV G I SYMBOLIST POET AND CRITIC THEORIST OF MYSTICAL ANARCHISM; ELLIS L L KOBYLINSKY SYMBOLIST POET AND CRITIC
IT - PSYCHOLOGY PSYCHOLOGY OF PERCEPTION
IT - SOLOGUB F F K TETERNIKOV RUSSIAN SYMBOLIST

For ease of searching single and combined categories and for comparison and evaluation studies, several category lists in this database are approachable in different lists, or inverted files.

	List Name	
BIW	Basic Index Words	single terms in all searchable fields, e.g., BLINDNESS (BIW)
ST	SAP Terms	all single terms from CT and IT fields, e.g., BLINDNESS (ST)
SP	SAP Phrases	all phrases from CT and IT fields, e.g., PARTIAL BLINDNESS (SP)
SWT	SAP Weighted Terms	all terms in CT and IT fields which meet criteria for weighting (*), e.g., ten or more pages on Psychology (CT) would result in *PSYCHOLOGY (SWT)
SWP	SAP Weighted Phrases	all phrases from CT and IT fields which meet weighting criteria, e.g., Choice theories (p. 258-306) in IT field would result in *CHOICE THEORIES (SWP)
LCT	LC Heading Terms	all terms in LCH field (e.g., PSYCHOLOGY - MATHEMATICAL MODELS) would result in the following terms in LCT field: MATHEMATICAL (LCT), MODELS (LCT), and PSYCHOLOGY (LCT)

Below is a schematic diagram showing the relationship of the word searchable fields (ME, TI, LCH, CT, IT) to the category lists explained above (BIW, ST, SP, SWT, SWP, LCT). All searchable categories are included in the diagram.*



* Searchable categories are underlined
Lists are not underlined

Figure 3. BOOKS Category and List Relationships

BOOKS File: Use of ORBIT Features

1) ALL

The word ALL should be used before every term or phrase being searched to avoid the Multi Meaning Message, which will always appear because of the multiple listing of terms and phrases (see chart).

The word ALL may be purposely omitted if the searcher desires to know which fields or lists contain the term or phrase being searched, or when checking spelling variations, or a questionable truncation.

2) NEIGHBOR

The NBR command is useful for obtaining a list of alphabetically adjacent terms in the categories or lists that you want to examine in order to check the number of postings.

```
SS 12 /C?
USER:
"NBR MORAL: (LCH)

PROG:

POSTINGS        TERM
      1         MONETARY POLICY - PAKISTAN
      2         MOORE, HENRY SPENCER, 1898-
      1         MORAL REARMAMENT
      1         MORRIS, DESMOND.  THE NAKED APE
      1         MOSCA, GAETANO, 1858-1941
UP N OR DOWN N?
```

```
USER:
"NBR MORAL

PROG:

POSTINGS        TERM
      2         MORA (ST)
      1         *MORA (SWT)
     96         MORAL (BIW)
     46         MORAL (CT)
     49         MORAL (IT)
UP N OR DOWN N?
```

TIPS ON SEARCHING

I. Numeric or Alpha-Numeric Fields

1. Record Serial Number (RSN) and SAP Number (SNO)

These fields list the University of Toronto and SAP staff control numbers. They are used to locate and check copies of the records. If the offline print is ordered and sorted by SNO, it will be in L.C. class order because of the way the SAP number was applied.

2. Classification Call Number (CCN)

Always truncate the call number you are searching. This will create a subset of the BOOKS file which you can scan as you would a shelf list or book stack.

The University of Toronto (location of all titles in BOOKS) modified the L.C. numbers to refine the classification of materials (in Class F).

```
SS 12 /C?
USER:
ALL BJ14:  (CCN)

PROG:
SS 12 PSTG (15)
```

3. Publication Year (PY)

To search the records for date of publication, combine a search statement with AND FROM (year) THRU (year).

```
SS 7 /C?
USER:
ALL REGIONAL PLANNING (LCH) AND FROM 1960 THRU 1977

PROG:
SS 7 PSTG (    )
```

II. Word Searchable Fields

4. Main Entry (ME)

The "phrase" in this field is usually a person's or an organization's name, with other information (e.g., birth - death dates). Search the person's last name or the organization's name with truncation. Without the word ALL a Multi Meaning Message will produce all forms of the name.

Remember that this is not the only place in the BOOKS record where "authors" will be found. Only specify (ME) after name if you are looking for an entire book by that author.

```
SS 14 /C?
USER:
SMITH:  (ME)

PROG:
MM (SMITH:)  (13)
              1   SMITH, DAN THROOP (ME)
              .
              .
              .
              9   SMITH, WILLARD MALLALIEU, 1888-  (ME)
             10   SMITH, WILLIAM H., 1917-  (ME)
             11   SMITH, WILLIAM HENRY, OF CNAADA  (ME)
             12   SMITH, WILLIAM LOE, 1855-  (ME)
             13   SMITHELLS, ROGER  (ME)
SPECIFY NUMBERS, ALL, OR NONE
```

5. Title (TI)

The key terms in your search request should be searched in the title field using the ALL and the AND operator. The title field usually contains only one sentence and it is small enough that the words will be in close proximity.

> i.e., ALL GAY (TI) AND ALL CIVIL (TI) AND ALL RIGHTS (TI) will retrieve books entitled Gay Civil Rights, Gay People and Civil Rights, Civil Rights for Gay Men and Women, etc.

6. Subject Headings (LCH)

The authority list to check before searching terms and phrases in this field is the L.C. List of Subject Headings, 8th ed. (available in print and on microfiche). Remember to truncate to avoid missing relevant items because of subdivision variation. Occasionally key terms may be searched in this field with the AND operator. The OR operator can be used when combining terms if each component term is a relevant subject heading term by itself.

7. Contents Terms (CT) and Index Terms (IT)

Break the phrase expressing your search request into its key component terms and "sentence search" (SENS) the terms combined with a Boolean AND.

```
SS 6 /C?
USER:
ALL GN (CCN)
PROG:
SS 6 PSTG (135)
SS 7 /C?
USER:
SENS 6 (CT) : CULTURE : AND : PERSONALITY
etc.
```

A sentence in the CT and IT categories is defined as the characters, excluding pagination, that exist between semicolons, i.e.,

CT - *Symbolist Debate (p. 107-180) ; Art and Life (p. 116-131) ;

sentence sentence

By their very nature terms and phrases in these fields are free text, as they are chosen by the author or indexer of the book with little regard for controlling the form or expression of concepts. Nevertheless, these fields are rich sources to search for word and phrase matches if the ORBIT features of truncation and word proximity are used.

The Neighbor command will be more helpful in the IT field where important words in phrases are often inverted to create the alphabetic index to these important terms in context.

III. Terms and Phrases

1. Term Searching

Using the word MORAL as the key term to be searched, Table 1 lists the various possibilities.

TABLE 1. WORD SEARCHING HINTS

Form	Description
ALL MORAL	searches all terms in all fields and lists for the key term.
ALL MORAL (LCT)	searches all terms in the field or list specified in parentheses; in this case, the Library of Congress heading terms list. SWT (SAP Weighted Terms) will not be searched, however (see below).
ALL *MORAL	searches the SWT (SAP Weighted Terms) list for the key term.
SENS_ ( ) : MORAL:AND:ACTS ↗ search statement ↖ field (title by default)	searches each sentence in a specific field of a previously designated set for these two key terms.

And Don't Forget to use the AND NOT operator to help exclude false drops.

```
SS 2/C?
USER:
ALL WALES:

PROG:
SS 2 PSTG (16)

SS 3 /C?
USER:
2 AND NOT ALL PRINCE:

PROG:
SS 3 PSTG (12)
```

2. Phrase Searching

To handle compound or multi-word concepts, consider it a phrase or as AND-ed terms. Using the phrase MORAL PHILOSOPHY as the phrase to be searched, Table 2 lists the various possibilities for searching specified phrases in BOOKS.

TABLE 2. PHRASE SEARCHING HINTS

Form	Description
ALL MORAL PHILOSOPHY	searches the CT & IT fields for an exact match. No words or phrases are allowed before or after the key phrase in a sentence to match with this search.
ALL MORAL PHILOSOPHY:	searches the CT & IT fields for a match. Allows letters, words and phrases to be included after, but not before the key phrase in the sentence.
ALL MORAL PHILOSOPHY ( )	searches the list or field specified in parentheses, except SWP (SAP Weighted Phrases),+ for an exact match. No letters, words or phrases are allowed before or after the key phrase in the sentence.
ALL MORAL PHILOSOPHY: ( )	searches the list or field specified in parentheses, except SWP (SAP Weighted Phrases),+ for a match. Allows letters, words and phrases to be included after, but not before the key phrase in the sentence.
+ ALL *MORAL PHILOSOPHY	the asterisk preceding the phrase is used instead of the parentheses after the phrase to designate the SAP Weighted Phrase list. Use with or without truncation.
STRS_ ( ) : MORAL#PHILOSOPHY ↗ search statement ↖ field (title by default)	searches the specific field of a specific set for a match. No attention is paid to words or phrases preceding or succeeding the phrase.
SENS_ ( ) : MORAL#PHILOSOPHY ↗ search statement ↖ field (title by default)	searches each sentence of a specific field of a specific set for a match. No attention is paid to words or phrases preceding or succeeding the key phrase. The entire key phrase must occur within a single sentence.

SUMMARY

Searching any word searchable field or list for a specific term(s) is straightforward and requires little explanation. However, when searching any field or list for a phrase, remember that the search is limited to matching your phrase with a phrase that looks identical to yours at the beginning, i.e., the first words in the "sentence" in a field must match your first words. The search will not match your phrase if a phrase occurring later in the sentence matches. Consequently, the phrase search may be less than thorough.

For example: ALL MORAL PHILOSOPHY: (CT) will retrieve a citation containing the (CT) sentence, ; Moral Philosophy of the Ancient Greeks (p. 207-243) ;, because of your truncation, but this strategy will not retrieve a citation containing the (CT) sentence, ; Development of Moral Philosophy in Ancient Greece (p. 503-521);.

The English language being what it is, it is often possible to phrase a concept in many different ways (oftentimes using the same component terms).

i.e., Culture and Personality, Personality and Culture

Another example can highlight the problem of synonyms. The idea of "urban renewal" might be found under the following entries in the CT and IT fields:

urban renewal	regional planning
urban development	town planning
urban redevelopment	urban housing
urban planning	etc.

Major differences exist for searching controlled vocabulary and free text fields. Few people are accustomed to doing a combination of controlled vocabulary and free text searching. This may be the best way for searching BOOKS. Keep in mind that:

1) In a free text search the number of possible terms you must think of to express a certain concept will be very large. It is up to you to combine the synonymous terms into phrases to express that concept.

2) Your search strategy can involve combining free-text search terms or phrases in four different subject fields (TI, LCH, CT, IT) and possibly expressing that concept using the Library of Congress Classification Number (CCN).

Ninety Queries Used in Controlled MARC & BOOKS Searches

Social Sciences

Psychology

1. Creativity; creative ability; or intellectual productivity.
2. Leadership attributes and organizations.
3. Employee motivation.
4. Interpersonal relations in organizations.
5. Sex role socialization and children.
6. Cognitive dissonance or cognitive balance.
7. Symbolic interaction.
8. Tolerance of ambiguity.
9. Anxiety and interviewee verbal behavior.
10. Resource exchange and interpersonal relations (communication).
11. Deception or deceptive ability and interviewing, or lying or detection of lying; or social desirability.
12. Conformity, group pressure, social desirability.
13. Aggression and tension-reduction or hostility.
14. Extroversion and gregariousness and sociability (concepts and tests).
15. Interpersonal accommodation and/or friendship and/or social cost and/or dyadic flexibility.

Anthropology

16. Studies on the attitudes toward family planning in Italy, Sardinia.
17. General population studies in Italy, Sardinia.
18. Nutritional studies in Italy, Sardinia.
19. Study of the advantages/disadvantages of "unlimited number of children" among Sardinian peasants.
20. Level and type of birth control among Italian/Sardinian peasants.
21. Infant mortality: rates, general causes of.
22. What theories has anthropology contributed to the study of demography?
23. How is culture related to patterns of mortality?
24. Has anthropology paid more attention to mortality, fertility, or migration?
25. How can demography contribute to the study of culture?
26. What are the predominant social patterns of mortality in India?

27. How does culture influence mortality in India?

28. Are there different patterns of mortality for males and females in India?

29. Is there any evidence of female infanticide in present-day India?

30. Does female infanticide exist in many parts of the world?

Social Science (general)

31. Accuracy of perceived size and value (brightness) of visual symbols (in particular, cartographic symbols, or applications of the above to geography and maps, but only if there is enough to limit in this way).

32. Women and alcoholism - anything on their drinking patterns, incidence among females, treatment, participation in AA, etc.

33. Professionalization of psychiatry - the development of psychiatry as a profession, particularly from the sociological viewpoint.

34. Conversion of mutual savings and loans banks, organizations, to stock organizations. How organizations change over, why, trends, etc.

35. Information on organizational development, also referred to as "team-building" and process consultation. In particular, would like applications in hospitals or health-related institutions.

36. Organizational or managerial impact of computers and automation. For example, impact on employee relations, communications, attitudes toward work, etc.

37. Music therapy for handicapped - in particular, handicapped children.

38. Maintenance of response in token-economy programs.

39. Assertive training for adults.

40. Techniques of behavior modification for aggressive children.

41. Police personality characteristics (or other law-enforcement personnel).

42. Effects of role playing on counselor training.

43. Validity and reliability studies done on the Stanford Achievement Test.

44. Validity and reliability studies on the Horn Art Aptitude and the Meier Art Appreciation.

45. Psychological effects of long-term unemployment.

Humanities

Graeco-Roman History

46. Pliny's letters or Pliny the Young - letters.

47. The Stoa and/or Stoic school.

48. Phaedrus.

49. The Anabasis and Cyrus, or Xenophon's Anabasis.

50. Greek mysteries and religious expression.

51. Hubris in Greek tragedies or Aeschylus and Hubris (the concept of Hubris).

52. Orphic symbolism.

53. Sallust and characterizations of Rome.

54. Seneca and slaves.

55. Rome, barbarians and slaves.

56. Roman colonization of Dacia.

57. Burial rites in Thracia and/or Greece.

58. Roman temple religion and Greek rites.

59. Oratory skills in Rome and Greece.

60. Commonalities/differences between Greek and Roman law.

Art

61. Relief structure of the Parthenon 5th Century B.C. (447-432 B.C.).

62. Any representations - sculpture, painting, mosaic, mural, etc. - of the New Testament event "Noli me tangere" (Christ's rebuff of Mary Magdalen's temptation).

63. Greek, Roman & Etruscan imagery (decoration) on sarcophagi (c500 B.C. - 300 A.D.).

64. Byzantine ivory decoration (c500 - 1453 A.D.), Barberini diptych, throne of Maximian (Antioch, Ravenna art), diptych of Flavius Anastasius, Veroli casket, Harbaville triptych.

65. Colonial American gravestone decoration.

66. Any representation of the hippopotamus in Egyptian old kingdom art forms (c2700 - 2150 B.C.), (Weighing of souls, last judgment, Seth, Set, Taurt, Apet, Opet, King's Jubilee).

67. Canadian sculpture.

68. Thomas Eakins' bas-relief sculpture - especially Civil War series.

69. Florence Baptistery bronze doors - north side by Lorenzo Ghiberti - information on the competition relief (c1403 - 1424), (for Cathedral of Florence); main competition relief was Sacrifice of Isaac.

70. Wrought and cast ironwork in the U.S. Specific places where it occurs are New Orleans, Washington, D.C., Philadelphia, Boston, Charleston, S.C., and New York City. Gates, balconies, windows, grills, porches, fences, railings, columns, panels, buildings, structures, decorative ornaments on buildings - before the 20th Century.

71. Interpretations of the Durer (1513-1514) master engraving: "Knight, Death & the Devil," "St. Jerome in his Study," and "Melancolia I." (copper plate and engravings).

72. Arts and crafts movement in the U.S. Elbert Hubbard - Roycrofters.

73. Black-figure style ceramics - Greek style from Corinth c700 B.C.

74. Art of the el-Amarna (New Kingdom) period - reign of Akhenaton or Ikhnaton or Amenophis IV or Amenhotep IV (1379 - 1362 B.C.), wife Nefertiti; Totmes was a sculptor - particularly the break with traditional representations.

75. Iconography of the "Racetrack" or "Four Horsemen of the Apocalypse," Horse Race in Western Art.

Logic

76. How is the Lowenheim-Skolem theorem proved?

77. What is the Los-Vaught theorem, and how is it proved?

78. How is completeness proved for first-order, uncountable languages?

79. What are some complete axiomatizations of propositional logic?

80. Where are there some discussions of the symbolization of "any?"

81. What logic texts have set theory chapters, appendixes on set theory, or introductory material? In each case, which?

82. Which books have material on modal logic?

83. Where are there discussions of definite descriptions?

84. What is the compactness theorem, and how is it proved?

85. Which logic texts have material on recursive functions?

86. What are some first-order formulations of some simple mathematical theories?

87. What is a categorical theory?

88. Is the set containing negation and the biconditional expressively adequate?

89. How can I eliminate uses of the deduction theorem?

90. What connectives are adequate to represent all truth-functions?

Raw Data for Ninety Searches

Table A.IV.1 Data from Three Experiments for Social Sciences Searches

(N = 45)

	Experiment 1		Experiment 2		Experiment 3	
	No. Relevant Items Retrieved*		Computer Connect Time		Precision Ratio	
SEARCH	MARC	BOOKS	MARC	BOOKS	MARC	BOOKS
1	6	9	.30	.17	.63	.65
2	4	4	.31	.10	.42	.70
3	1	0	.26	.05	.42	.50
4	1	5	.28	.07	.75	.56
5	2	3	.30	.10	.36	.66
6	3	6	.16	.06	.33	.89
7	1	2	.14	.10	.38	.33
8	2	3	.15	.05	1	.73
9	0	1	.20	.05	.43	.38
10	1	2	.13	.03	.60	.60
11	0	2	.26	.04	1	.25
12	3	8	.18	.09	.73	.46
13	0	1	.18	.04	.10	.44
14	2	1	.17	.09	.31	.43
15	2	4	.12	.12	.75	.35
16	0	1	.18	.14	.00	.20
17	0	0	.12	.05	.00	.00
18	0	1	.09	.12	.00	.33
19	0	0	.04	.04	.00	.25
20	0	0	.09	.04	.00	.25
21	3	0	.25	.07	.24	.66
22	0	1	.21	.09	.00	.63
23	0	1	.14	.07	.00	.35
24	0	0	.05	.05	.00	.00
25	0	2	.10	.11	.00	.78
26	0	0	.13	.07	.00	.00
27	0	0	.16	.11	.00	.00
28	0	0	.10	.09	.00	.00
29	0	0	.13	.09	.00	1
30	0	0	.05	.08	.00	.16
31	0	3	.26	.15	.75	.23
32	0	0	.10	.09	.00	.08
33	0	0	.06	.06	.00	.00
34	0	0	.09	.11	.00	.00
35	0	0	.22	.10	.40	.50
36	0	0	.15	.05	1	.00
37	0	0	.08	.11	.00	.00
38	0	0	.14	.14	.40	.45
39	0	0	.18	.08	.29	.10
40	0	0	.13	.09	.50	.25
41	0	0	.08	.12	.00	.06
42	0	0	.09	.07	1	.50
43	0	0	.06	.10	.00	.50
44	0	0	.11	.13	.00	.50
45	0	1	.13	.08	.00	.17
TOTALS	31	61	6.86	3.86	12.79	15.88
$\bar{X}$	.69	1.36	.15	.09	.28	.35

* For another analysis of these data where a tighter estimate of recall is assumed, see Table A.IV.3 in this appendix.

Table A.IV.2 Data from Three Experiments for Humanities Searches

(N = 45)

	Experiment 1		Experiment 2		Experiment 3	
	No. Relevant Items Retrieved*		Computer Connect Time		Precision Ratio	
SEARCH	MARC	BOOKS	MARC	BOOKS	MARC	BOOKS
1	0	2	.08	.04	.50	.50
2	0	8	.05	.05	.00	.92
3	0	0	.07	.03	.00	.00
4	1	1	.16	.03	.46	.66
5	3	2	.23	.08	.53	.60
6	0	2	.09	.06	.66	1
7	0	1	.11	.02	.00	.33
8	0	2	.16	.01	.45	1
9	0	2	.13	.02	.38	1
10	4	5	.19	.03	.66	.70
11	1	2	.13	.03	.40	.44
12	1	2	.16	.09	.83	.33
13	0	1	.17	.08	.25	.50
14	0	2	.07	.04	.00	1
15	0	3	.21	.05	.24	.47
16	1	2	.10	.06	1	.29
17	0	0	.25	.08	1	.00
18	2	6	.23	.10	.50	.80
19	0	1	.11	.14	.00	.11
20	1	0	.17	.15	.50	1
21	0	1	.13	.12	1	.21
22	1	0	.14	.02	.25	1
23	0	0	.09	.04	.00	1
24	0	0	.18	.10	.00	.50
25	0	0	.10	.08	.00	.00
26	1	1	.13	.04	.33	.29
27	0	0	.08	.12	.00	.00
28	0	2	.19	.11	1	.75
29	0	1	.11	.06	1	1
30	0	2	.04	.06	.00	1
31	1	0	.10	.10	.33	.00
32	0	0	.11	.04	.33	.00
33	2	0	.10	.04	.80	.00
34	0	3	.10	.03	.00	.60
35	2	1	.15	.03	.91	1
36	1	1	.14	.06	.90	1
37	1	6	.06	.04	1	1
38	1	1	.09	.03	1	1
39	1	0	.10	.03	.14	.00
40	0	2	.04	.10	.00	.31
41	0	3	.13	.07	1	.36
42	0	0	.08	.05	.00	.00
43	0	0	.11	.04	.33	.00
44	0	1	.07	.04	.00	1
45	0	1	.08	.03	.00	1
TOTALS	25	70	5.52	2.67	18.68	24.67
$\bar{X}$	.56	1.56	.12	.06	.42	.55

* For another analysis of these data where a tighter estimate of recall is assumed, see Table A.IV.3 in this appendix.

Table A.IV.3 Estimated RECALL for MARC & BOOKS Searches

Note: No attempt was made to examine every book in BOOKS to check its relevance to the 90 queries. This would have necessitated 178,110 relevance judgments. Instead, the combined score for number of relevant documents from either MARC or BOOKS searches for each query, minus matches, was used for the denominator in estimating recall. Those items rated PR (Possibly Relevant) were not included in order not to bias results in favor of either search. It was observed by checking relevance judgments for items which were retrieved by both search techniques that the Possibly Relevant (PR) assessments were the ones subject to change when the second assessment was made.

For purposes of a tight estimate of recall then, where we would have no doubt in the relevance of the item to the query, only Relevant/Known and Relevant/Not Known assessments were counted to approximate the total number of relevant items in BOOKS.

$$\text{Estimated Recall} = \frac{\text{\# Relevant Items Retrieved}}{\text{\# Relevant Items in File (est.)}}$$

Estimated TOTAL Number of Relevant Items in File for 90 Queries = 172

	SOCIAL SCIENCE												HUMANITIES					
	Psychology			Anthropology			Social Science (genl.)			Graeco-Roman			Art			Logic		
	# Rel.	# Retrieved MARC	# Retrieved BOOKS	# Rel.	# Retrieved MARC	# Retrieved BOOKS	# Rel.	# Retrieved MARC	# Retrieved BOOKS	# Rel.	# Retrieved MARC	# Retrieved BOOKS	# Rel.	# Retrieved MARC	# Retrieved BOOKS	# Rel.	# Retrieved MARC	# Retrieved BOOKS
1	13	6	9	1	0	1	3	0	3	2	0	2	2	1	2	1	1	0
2	7	4	4	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0
3	1	1	0	1	0	1	0	0	0	0	0	0	6	2	6	2	2	0
4	6	1	5	0	0	0	0	0	0	2	1	1	1	0	1	3	0	3
5	5	2	3	0	0	0	0	0	0	5	3	2	1	1	0	2	2	1
6	8	3	6	3	3	0	0	0	0	2	0	2	1	0	1	2	1	1
7	3	1	2	1	0	1	0	0	0	1	0	1	1	1	0	7	1	6
8	5	2	3	1	0	1	0	0	0	2	0	2	0	0	0	2	1	1
9	1	0	1	0	0	0	0	0	0	2	0	2	0	0	0	1	1	0
10	3	1	2	2	0	2	0	0	0	9	4	5	0	0	0	2	0	2
11	2	0	2	0	0	0	0	0	0	2	1	2	1	1	1	3	0	3
12	10	3	8	0	0	0	0	0	0	3	1	2	0	0	0	0	0	0
13	1	0	1	0	0	0	0	0	0	1	0	1	2	0	2	0	0	0
14	2	2	1	0	0	0	0	0	0	2	0	2	1	0	1	1	0	1
15	5	2	4	0	0	0	1	0	1	3	0	3	0	0	2	1	0	1
	72	28	51	9	3	6	4	0	4	44	10	35	16	6	16	27	9	19
Estimated Recall (%):		39%	71%		33%	66%		0%	100%		23%	80%		38%	100%		33%	70%

Interesting Queries

Social Science #1	Creativity
Social Science #2	Infant Mortality
Social Science #3	Police Personality Characteristics
Social Science #4	Perceived Size & Value of Visual Symbols
Humanities #1	Greek, Roman and Etruscan Imagery on Sarcophagi
Humanities #2	Eliminate the Use of the Deduction Theorem
Humanities #3	Adequate Connectives to Represent all Truth Functions

Note: Seven of the ninety queries used in the controlled experimental searches are analyzed here in depth.

The online strategies used by the MARC searcher and the BOOKS searcher are shown, with the number of items retrieved given after each numbered search statement.

Statistics and measures of precision, estimated recall, and time online are included. (See Table A.IV.3 for an explanation of "estimated recall.")

The analysis section compared the two methods, diagnosing why the BOOKS or MARC strategy resulted in low recall or low precision, or missed relevant items.

The matched items found by both methods are listed and the relevance assessments, if different, are given.

Sample output is shown for a few queries.

Interesting Query Social Sciences #1

* *

* Creativity, creative ability, or intellectual productivity. *

* *

a) MARC SEARCH STRATEGY

1 CREATIVE ABILITY:(LCH) OR ORIGINALITY (LCT) OR IMAGINATION (LCT)
NP ORIGINALITY (LCT)
NP (IMAGINATION(LCT))
3

2 (LCH) CREATION (LITERARY, ARTISTIC, ETC.): OR CREATIVE THINKING: OR CREATIVE WRITING: OR CREATIVITY IN LITERATURE:
NP (CREATION (LITERARY, ARTISTIC, ETC.): (LCH))
NP (CREATIVE THINKING: (LCH))
NP (CREATIVE WRITING: (LCH))
NP (CREATIVITY IN LITERATURE:(LCH))

2 (LCT) INTELLECT OR INSPIRATION
NP (INSPIRATION (LCT))
5

3 (TI) ALL CREATIV:
7

4 3 AND NOT 1
6

5 ALL CREAT: (TI)
9

6 5 AND NOT 4
3

7 ALL IMAGINATION (TI)
2

8 ALL CREATION (LITERARY, ARTISTIC, ETC.)
NP (CREATION (LITERARY, ARTISTIC, ETC.)

b) BOOKS SEARCH STRATEGY

1 ALL CREATIV:
55

2 ALL PRODUCTIV: OR ALL PROLIFIC: OR ALL FRUITFUL: OR ALL FECUND:
25

3 ALL INVENTIVE: OR ALL INGENIOUS: OR ALL IMAGINATIVE: OR ALL GIFTED: OR ALL TALENTED OR ALL ENDOWED: OR ALL ARTISTIC: OR ALL CLEVER: OR ALL DEMIURGIC:
29

4 ALL INTELLECTUAL:
45

5 ALL CEREBRAL: OR ALL INTELLECT:
17

6 ALL LEARNED: OR ALL SCHOLARLY: OR ALL PENSIVE: OR ALL LITERATE: OR ALL THOUGHTFUL: OR ALL BOOKISH:
11

7 1 OR 2 OR 3 OR 4 OR 5 OR 6
157

8 ALL ABILIT:
57

9 7 AND 8
23

10 1 AND 2
2

11 9 OR 10
23

c) STATISTICS

	MARC	BOOKS
Total Retrieved	16	23
Relevant/Known	0	2
Relevant/Not Known	6	7
Possibly Relevant	4	6
Not Relevant	6	8
Precision:	$\frac{10}{16}$ = 63%	$\frac{15}{23}$ = 65%
Estimated Recall:	$\frac{6}{13}$ = 46%	$\frac{9}{13}$ = 69%
Time Online:	.30 hr.	.17 hr.

Estimated No. Relevant Items in BOOKS = 13 + 2 (2 were suggested by requester and missed by both, SNO 1617 & SNO 1571).
(2 matches.)

d) ANALYSIS

Matches: There were 6 matched items in the MARC and BOOKS searches.

Two (SNO 1479 & SNO 1481) were assessed as Relevant/Not Known both times.
Two (SNO 1491 & SNO 1624) were assessed as Not Relevant both times.
One (SNO 1492) was assessed as Possibly Relevant both times.
One (SNO 1560) was assessed as Possibly Relevant when the MARC record was examined and Not Relevant when the BOOKS record was examined.

MARC: Low recall - six Relevant/Not Known items were found by BOOKS and not by MARC:

a) SNO 1330 LCH: Psychology - Methodology
b) SNO 1490 LCH: Mental tests
c) SNO 1514 LCH: Space - Perception
d) SNO 1568 LCH: Difference (Psychology)
e) SNO 1589 LCH: Personality assessment
f) SNO 1641 LCH: Adolescent psychology

LCSH headings where hits occurred were: Creative ability, Intellect. TITLE words where hits occurred were: creativity, creative, creating, and imagination. The BOOKS search found books using terms: gifted, prolific, literate.

BOOKS: Missed relevant documents - four items (Relevant/Not Known) were found by MARC and not by BOOKS:

a) SNO 1482 LCH: Creation (Literary, Artistic, etc.)
b) SNO 1483 Title: The Crisis of Creativity
c) SNO 1567 LCH: Self-Realization
d) SNO 1781 LCH: Creation (Literary, Artistic, etc.)

The strategy used was a string of synonyms from Roget's Thesaurus to describe the terms in the query. Creation as a term was not used and the truncated term Creation: did not retrieve it.

Note: From a previous search the requester remembered two items (SNO 1617 and 1571) which neither MARC nor BOOKS searches retrieved on this search. This prompts us to think that our estimate of relevant documents is low and benefits searches in both records equally.

Interesting Query Social Sciences #2

* * * * * * * * * * * * * * * * *

* Infant mortality: rates, general causes of. *

* * * * * * * * * * * * * * * * *

a) MARC SEARCH STRATEGY

1 (LCH) CHILDREN - MORTALITY OR INFANTS - MORTALITY OR INFANTS - DISEASES OR INFANTS (NEWBORN) - MORTALITY OR MOTHERS - MORTALITY OR SUDDEN DEATH IN INFANTS
NP (CHILDREN - MORTALITY (LCH))
NP (INFANTS - DISEASES (LCH))
NP INFANTS (NEWBORN) - MORTALITY (LCH))
NP (SUDDEN DEATH IN INFANTS (LCH))

1 (LCT) ALL FATAL: OR ALL MORTALIT: OR ALL DEATH: OR ALL DISEASE#
NP (FATAL: (LCT))
NP (MORTALIT: (LCT))
NP (DISEASE# (LCT))
3

2 (TI) ALL FATAL: OR ALL MORTALIT: OR ALL DISEASE# OR ALL DYING OR ALL DEATH#
NP (FATAL: (TI))
NP (MORTALIT: (TI))
NP (DISEASE# (TI))
NP (DYING (TI))
8

3 1 OR 2
10

4 (LCT) ALL CHILD OR ALL CHILD'S OR ALL CHILDREN OR ALL BABIES OR ALL BABY OR ALL INFANT# OR ALL GIRL# OR ALL YOUTH#
NP (CHILD'S (LCT))
NP (BABIES (LCT))
NP (BABY (LCT))
NP (GIRL# (LCT))
NP (YOUTH# (LCT))
38

5 4 OR 3
48

6 4 AND 3
NONE

6 (LCT) ALL CHILDREN OR ALL INFANT# OR ALL CHILD
38

```
7  (TI) ALL CHILDREN OR ALL CHILD'S OR ALL CHILD OR ALL BABIES OR ALL BABY OR
   ALL INFANT: OR ALL GIRL# OR ALL YOUTH
   NP (CHILD'S (TI))
   NP (BABIES (TI))
   NP (BABY (TI))
   NP (YOUTH (TI))
   21

8  7 OR 4
   40

9  8 AND 3
   NONE

9  ALL CHILD STUDY (LCH)
   25
```

b) BOOKS SEARCH STRATEGY

```
1  ALL CHILD: OR ALL INFANT:
   230

2  ALL MORTALITY: OR ALL FATALITY: OR ALL DEATH:
   80

3  1 AND 2
   26

4  ALL CAUSE: AND 3

   3

5  ALL FATALIT:  AND 3
   NONE

5  SENS 3 (IT) :INFANT MORTALITY:
   NONE
```

c) STATISTICS

	MARC	BOOKS	
Total Retrieved	25	3	
Relevant/Known	0	0	Estimated No. Relevant Items in BOOKS = 3 (no matches across searches)
Relevant/Not Known	3	0	
Possibly Relevant	3	2	
Not Relevant	19	1	
Precision:	$\frac{6}{25}$ = 24%	$\frac{2}{3}$ = .66%	
Recall:	$\frac{3}{3}$ = 100%	$\frac{0}{3}$ = 0%	
Time Online:	.25 hr.	.07 hr.	

d) ANALYSIS

MARC: Low precision - searcher settled for all child study (LCH) after mortality synonyms and child terms did not work. (See also attached sample of offline output for MARC search.)

BOOKS: Low recall - missed 3 rated Relevant/Not Known:
(Relevance assessed on basis of subtitle)

SNO 1621 - Child development: the human, cultural, and educational context
SNO 1611 - Human development, from birth thru adolescence
SNO 1606 - Human development in Western culture

Missed 3 Possibly Relevant:
(Relevance assessed on basis of subtitle)

SNO 1616 - The first 2 decades of life
SNO 1605 - Theory & problems of child development
SNO 1622 - Mental growth & personality development: a longitudinal study

Figure A.IV.1. Sample of Offline Output for MARC Search

CCN - BF721 S446
ME - Schm:lt, Wilfred H.O.
TI - Child development: the human, cultural, and educational context
IM - New York, Harper & Row, 1973
COL - 181p.
LCH - Child study
SNO - 1621
PY - 1973
RSN - 00802988

CCN - BF698.8 R5 L48
ME - Levitt, Eugene E.
TI - The Rorschach technique with children and adolescents: application and norms by Eugene E.Levitt and Aare Truumaa.
IM - New York, Grune & Stratton, 1972
COL - 146p.
LCH - Rorschach test; Child s.udy; Adolescent psychology
SNO - 1594
PY - 1972
RSN - 00747244

CCN - BF698 M63
ME - Montagu, Ashley, 1905-
TI - Touching: the human significance of the significance of the skin.
IM - New York, Columbia University Press, 1971
COL - 338p.
LCH - Touch; Skin, Nonverbal communication; Personality; Child study
SNO - 1582
PY - 1971
RSN - 00633101

CCN - BF721 G644 1969
ME - Gordon, Ira J.
TI - Human development, from birth through adolescence by Ira J. Gordon.
IM - New York, Harper & Row, 1969
COL - 408p.
LCH - Child study; Adolescence; Socialization
SNO - 1611
PY - 1969
RSN - 00556920

CCN - BF717 M5 1968
ME - Millar, Susanna
TI - The psychology of play.
IM - Harmondsworth, Penguin, 1968
COL - 288p.
LCH - Play; Child study
SNO - 1604
PY - 1968
RSN - 00413057

CCN - BF721 L525
ME - Lewis, Morris Michael
TI - Language, thought, and personality in infancy and childhood
IM - New York, Basic Books, 1964
COL - 256p.
LCH - Child study; Children - Language
SNO - 1615
PY - 1964
RSN - 00093690

CCN - BF721 M86
ME - Murphy, Lois (Barclay), 1902-
TI - Personality in young children.
IM - New York, Basic Books, 1956
LCH - Personality; Child study
SNO - 1617
PY - 1956
RSN - 00006822

CCN - BF721 M48 1958A
ME - Merry, Frieda (Kiefer)
TI - The first two decades of life.
IM - New York, Harper & Row, 1958
COL - 642p.
LCH - Child study; Adolescence
SNO - 1616
PY - 1958
RSN - 00006818

CCN - BF721 J4 1960
ME - Jersild, Arthur Thomas, 1902-
TI - Child psychology.
IM - Englewood Cliffs, N.J., Prentice-Hall, 1960
COL - 506p.
LCH - Child study; Infants
SNO - 1613
PY - 1960
RSN - 00006799

CCN - BF721 E36 1974
ME - Elkind, David, 1931-
TI - Children and adolescents; interpretive essays on Jean Piaget.
IM - New York, Oxford University Press, 1974
COL - 186p.
LCH - Child study; Adolescent psychology; Piaget, Jean, 1896-
SNO - 1609
PY - 1974
RSN - 00846214

CCN - BF721 T46
ME - Thompson, George Greene, 1914-
TI - Child psychology; growth trends in psychological adjustment.
IM - Boston, Houghton Mifflin, 1952
COL - 667p.
LCH - Child study
SNO - 1623
PY - 1952
RSN - 00006856

CCN - BF721 P533
ME - Piaget, Jean, 1896-
TI - Play, dreams and imitation in childhood.
IM - New York, Norton, pref. 1951
COL - 296p.
LCH - Child study; Imitation; Play; Symbolism
SNO - 1619
PY - 1951
RSN - 00006835

CCN - BF723 I6 J65
ME - Jordan, Thomas Edward
TI - Early developmental adversity and the first two years of life.
IM - Austin, Tex. , Society of Multivariate Experimental Psychology, 1971
COL - 80p.
LCH - Infants; Child study; Stress (Physiology)
SNO - 1634
PY - 1971
RSN - 00818727

CCN - BF723 D7 C5 1973
TI - Child art; the beginnings of self-affirmation by Sir Herbert Read and others Edited by Hilda Present Lewis.
IM - Berkeley, Calif. , Diablo Press, 1973
COL - 105p.
LCH - Drawing, Psychology of; Child study
SNO - 1631
PY - 1973
RSN - 00803992

CCN - BF721 B38 1970
ME - Bernrad, Harold Wright, 1908-
TI - Human development in Western culture
IM - Boston, Allyn and Bacon, 1970
COL - 642p.
LCH - Child study; Adolescence
SNO - 1606
PY - 1970
RSN - 00639519

CCN - BF721 A8 1970
ME - Ausubel, David Paul
TI - Theory and problems of child development by David P. Ausubel and Edmund V. Sullivan.
IM - New York, Grune & Stratton, 1970
COL - 849p.
LCH - Child study
SNO - 1605
PY - 1970
RSN - 00610611

CCN - BF723 D7 B87
ME - Burns, Robert C.
TI - Kinetic family drawings (K-F-D); an introduction to understanding children through kinetic drawings, by Robert C. Burns and S. Harvard Kaufman.
IM - New York, Brunner/Mazel, 1970
COL - 160p.
LCH - Drawing, Psychology of; Child study; Personality assessment
SNO - 1630
PY - 1970
RSN - 00590871

CCN - BF723 M6 P53 1970
ME - Piaget, Jean, 1896-
TI - The child's conception of movement and speed; translated from the French by G.E.T. Holloway and M.J. Mackenzie.
IM - London, Routledge & K. Paul, 1970
COL - 306p.
LCH - Motion perception (Vision); Child study
SNO - 1637
PY - 1970
RSN - 00538591

CCN - BF723 S6 F56
ME - Flapan, Dorothy
TI - Children's understanding of social interaction.
IM - New York, Teachers College Press, 1968
COL - 86p.
LCH - Social perception; Child study
SNO - 1640
PY - 1968
RSN - 00426142

CCN - BF721 V4
ME - Vernon, Philip Ewart
TI - Intelligence and cultural environment
IM - London, Methuen, 1969
COL - 264p.
LCH - Intellect; Man - Influence of environment; Child study
SNO - 1624
PY - 1969
RSN - 00413560

CCN - BF723 C65 A7 1968
ME - Aronfreed, Justin Manuel, 1930-
TI - Conduct and conscience; the socialization of internalized control over behavior
IM - New York, Academic Press, 1968
COL - 405p.
LCH - Conscience; Socialization; Child study
SNO - 1629
PY - 1968
RSN - 00346149

CCN - BF723 R3 C5 1963
ME - Clark, Kenneth Bancroft, 1914-
TI - Prejudice and your child.
IM - Boston, Beacon Press, 1963
COL - 247p.
LCH - Race awareness; U.S. - Race question; Prejudices and antipathies
LCH - Child study; Segregation in education
SNO - 1639
PY - 1963
RSN - 00097044

CCN - BF721 S57
ME - Sontag, Lester Warren, 1901-
TI - Mental growth and personality development: a longitudinal study
IM - Lafayette, Ind. , Child Development Publications, 1958
COL - 143p.
LCH - Child study; Intellect; Personality
SNO - 1622
PY - 1958
RSN - 00006852

CCN - BF721 C2
ME - Carmichael, Leonard, 1898-, ed.
TI - Manual of child psychology.
IM - New York, Wiley, 1946
COL - 1068p.
LCH - Child study
SNO - 1607
PY - 1946
RSN - 00006763

CCN - BF455 L84 1961
ME - Luriia, Aleksandr Romanovich, 1902-
TI - The role of speech in the regulation of normal and abnormal behavior.
IM - New York, Liveright Pub. Corp., 1961
COL - 148p.
LCH - Speech (Psychology); Child study
SNO - 1506
PY - 1961
RSN - 00006442

Interesting Query Social Sciences #3

* *
* Police personality characteristics (or other law enforcement *
* personnel). *
* *

a) MARC SEARCH STRATEGY

```
1  ALL POLICE PSYCHOLOGY: (LCH) OR ALL POLICE ETHICS (LCH)
   NP (POLICE PSYCHOLOGY: (LCH)
   NP (POLICE ETHICS: (LCH)

1  ALL POLICE (LCT)
   NP (POLICE (LCT))

1  ALL PERSONALITY A#D OCCUPATION: (LCH) OR ALL PERSONALITY ASSESSMENT: (LCH)
   NP (PERSONALITY A#D OCCUPATION: (LCH))
   3

2  (TI) ALL POLICE:
   NP (POLICE: (TI))

2  (TI) ALL LAW AND ALL ENFORCEMENT
   NP (ENFORCEMENT (TI))

2  ALL PERSONALIT### (TI) AND ALL OCCUPATION# (TI)
   NP (OCCUPATION# (TI))
   NONE

2  ALL COP# (TI)
   1
```

b) BOOKS SEARCH STRATEGY

```
1  ALL POLICE: OR ALL COPS: OR ALL GUARD: OR ALL PATROL: OR ALL CONSTABULARY:
   OR ALL LAW:
   243

2  ALL PERSONALITY:
   176

3  1 AND 2
   31

4  3 AND NOT ALL LAWYER:
   31
```

c) STATISTICS

	MARC	BOOKS
Total Retrieved	0	31
Relevant/Known	0	0
Relevant/Not Known	0	0
Possibly Relevant	0	2
Not Relevant	0	29
Precision:	0%	$\frac{2}{31}$ = 6%
Estimated Recall:	---	---
Time Online:	.08 hr.	.12 hr.

Estimated No. Relevant Items in BOOKS = 0

d) ANALYSIS

MARC: No hits.

The LCH headings "Police psychology" and "Police ethics" had no postings in the BOOKS file.
The term "Police" did not appear as a term in the LCT list or the Title list.
The two items retrieved by BOOKS which were judged "Possibly Relevant" had the subject heading, Psychology, applied.

BOOKS: Low precision.

In an attempt to cover all the synonyms for law enforcement personnel, the terms police, cops, guard, patrol, constabulary and law were entered in truncated form, e.g., police:, law:. This resulted in many false drops because of the word "law" which appears in many phrases in subject descriptions for social science monographs.

The two "Possibly Relevant" items were found because their subject descriptions contained the following:

SNO 1378 - Human relations industry and law (p. 318-324)
SNO 1536 - Psychology in Law and Criminology; Whitmer (p. 235-256); Giardini (p. 257-291)

Neither one of these would have been found if "law:" as a search term had not been used. This type of vocabulary problem poses an insurmountable problem for the online searcher.

Interesting Query Social Sciences #4

* *
* Accuracy of perceived size and value (brightness) of visual *
* symbols (particularly in regard to cartographic symbols or *
* applications to geography and maps. *
* *

a) MARC SEARCH STRATEGY

1 ALL VISUAL: (LCH) OR ALL VISIBILITY (LCT) OR ALL FORM PERCEPTION: (LCH) OR ALL INFORMATION DISPLAY: (LCH)
NP (VISIBILITY (LCT))
NP (INFORMATION DISPLAY: (LCH))
4

2 ALL SIGNS A#D SYMBOLS: (LCH) OR ALL SENSES A#D SENSATION: (LCH)
NP (SIGNS A#D SYMBOLS: (LCH))
NP (SENSES A#D SENSATION: (LCH))

2 ALL PSYCHOMETRICS (LCT) OR ALL PSYCHOLOGY, PHYSIOLOGICAL: (LCH)
15

3 ALL OPTICS, PHYSIOLOGICAL: (LCH) OR ALL PHOSPHENES (LCT) OR ALL OPTICAL ILLUSIONS: (LCH)
NP (OPTICS, PHYSIOLOGICAL: (LCH))
NP (PHOSPHENES (LCT))
NP (OPTICAL ILLUSIONS: (LCH))

3 1 OR 2
19

4 ALL CARTOGRAPHY (LCT) OR ALL MAP: (LCH) OR ALL TOPOGRAPH: (LCH)
NP (CARTOGRAPHY (LCT))
NP (MAP: (LCH))
NP (TOPOGRAPH: (LCH))

4 (TI) ALL MAP# OR ALL CARTOGRAPH: OR ALL TOPOGRAPH:
6

5 (TI) ALL SYMBOL: OR ALL SIGN:
11

6 (TI) ALL VISUAL: OR ALL VISION OR ALL OPTIC:
NP (OPTIC: (TI))
6

7 4 AND 5
NONE

7 4 AND 6
NONE

7 5 AND 6
NONE

7 1 AND 4
NONE

7 1 AND 2
NONE

7 ALL PSYCHOMETRICS (LCT)
8

8 ALL PSYCHOLOGY, PHYSIOLOGICAL (LCH)
8

b) BOOKS SEARCH STRATEGY

1 ALL VISUAL: OR ALL VISION: AND ALL EYE:
55

2 ALL PERCEPT: OR ALL SIGHT: OR ALL AWARENESS: OR ALL EYESIGHT
137

3 1 OR 2
162

4 ALL PHYSIOLOGICAL AND ALL PSYCHOLOG:
33

5 ALL PSYCHOLOG: AND ALL PHYSICAL:
42

6 4 OR 5
68

7 3 AND 6
32

8 ALL MAP: OR ALL CARTOGRAPH:
40

9 7 AND 8
NONE

9 1 AND 8
2

10 3 AND 8
3

11 ALL BF: (CCN) AND 6
56

12 ALL BF: (CCN) AND 7
30

c) STATISTICS

	MARC	BOOKS
Total Retrieved	4	30
Relevant/Known	0	0
Relevant/Not Known	0	3
Possibly Relevant	3	4
Not Relevant	1	23
Precision:	$\frac{3}{4}$ = 75%	$\frac{7}{30}$ = 23%
Estimated Recall:	$\frac{0}{3}$ = 0%	$\frac{3}{3}$ = 100%
Time Online:	.26 hr.	.15 hr.

Estimated No. Relevant Items in BOOKS = 3 (1 match - different assessment.)

d) ANALYSIS

Matches: The one match (SNO 1440), classified BF 241, had two subject headings:

Form Perception
Visual Perception

When examined as BOOKS output it was assessed Relevant/Not Known. When examined as MARC output it was assessed Possibly Relevant.

MARC: Low recall. Several subject headings to express visual or optical perception and physiological psychology were used, plus terms in LCT and Title lists for map, cartography, and topography. The eight items retrieved using LCH: Psychology, Physiological, were rejected as a "mixed bag." In this output were some of the relevant items found in the BOOKS search.

The three "Possibly Relevant" items retrieved were matched by the search term "visual:" in the title or subject heading. In two cases the subject heading was "Visual Perception;" in one case "Visualization." In one case "Form Perception" was the subject heading, but the title was "Similarity in Visually Perceived Form."

Two of the Possibly Relevant books were classified: BF 241.

One was classified: BF 293

BOOKS: The search was limited to books classified in BF (Psychology). Terms to express vision perception and physiological psychology were used:

a) Visual, vision, eye
b) percept:, sight, awareness, eyesight
c) physical, physiological, psycholog:

When "map" or "cartography" were used, the results were too low.

The resulting output of 30 items was classified as follows.

Not Relevant - BF 121, 131, 149, 191, 203, 319.5, 321, 531, 671, 683, 697, 698, 701, 721, 724

Possibly Relevant - BF 121, 131, 295

Relevant - BF 237, 241, 455

According to this scatter of relevant items, someone scanning the book shelves in a library might have some real problems!

A similar problem exists in the subject catalog: The three relevant items had the following subject headings:

a) Form Perception; Visual Perception
b) Psychometrics; Psychology, Physiological
c) Human Information Processing; Pattern Perception

Interesting Query Humanities #1

* *
* Greek, Roman, and Etruscan imagery (decoration) on sarcophagi *
* (c500 B.C. - 300 A.D.) -- no Christian imagery. *
* *

a) MARC SEARCH STRATEGY

1 ALL SARCOPHAGI (LCT)
NP (SARCOPHAGI (LCT))

1 ALL GREEK (LCT) OR ALL ROMAN (LCT) OR ALL ETRUSCAN (LCT)
31

2 ALL COFFINS (LCT) OR ALL TOMBS (LCT) OR ALL SEPULCHRAL (LCT) OR ALL BURIAL (LCT)
NP (BURIAL (LCT))
NP (COFFINS (LCT))
4

3 1 AND 2
NONE

3 ALL GREECE (LCT) OR ALL ROME (LCT)
87

4 1 OR 3
103

5 ALL FUNERAL (LCT)
1

6 5 AND 3
1

7 ALL CHRISTIAN ANTIQUITIES: (LCH) OR ALL CHRISTIAN ART: (LCH)
NP (CHRISTIAN ANTIQUITIES: (LCH)
1

8 (TI) SARCOPHAGI
NP (SARCOPHAGI (TI))

8 (TI) ALL GREECE OR ALL GREEK OR ALL ROME OR ALL ROMAN OR ALL ETRUSCAN
75

9 (TI) ALL TOMB# OR ALL SEPULCHER# OR ALL SEPULCHRAL OR ALL GRAVE# OR ALL FUNERAL:
NP (SEPULCHER# (TI))
NP (SEPULCHRAL (TI))
NP (FUNERAL: (TI)
8

10 8 AND 9
NONE

10 (TI) ALL STATUE# OR ALL SCULPTURE# OR ALL MONUMENT#
NP (STATUE# (TI))
25

11 9 AND 11
NONE

12 9 AND 10
I

13 ALL ICONOGRAPHY (LCT, TI)
NP (ICONOGRAPHY (LCT, TI))

13 ALL ICONOGRAPHY (LCT)
NP (ICONOGRAPHY (LCT))

13 ALL ICON: (TI)
1

b) BOOKS SEARCH STRATEGY

1 ALL TOMB: OR ALL SARCOPHAG:
18

2 ALL GREEC: OR ALL GREEK: OR ALL ROM:
260

3 1 AND 2
13

4 3 AND NOT ALL MODERN
11

c) STATISTICS

	MARC	BOOKS
Total Retrieved	4	10
Relevant/Known	0	0
Relevant/Not Known	2	6
Possibly Relevant	0	2
Not Relevant	2	2
Precision:	$\frac{2}{4}$ = 50%	$\frac{8}{10}$ = 80%
Estimated Recall:	$\frac{2}{6}$ = 33%	$\frac{6}{6}$ = 100%
Time Online:	.23 hr.	.10 hr.

Estimated No. Relevant Items in BOOKS = 8 (2 matches.)

d) ANALYSIS

Matches: Two items were retrieved in both searches and both times the items were assessed Relevant/Not Known.

MARC: Low recall. The four relevant items retrieved by BOOKS but missed by MARC had the following subject headings:

Civilization, Etruscan
Etrurians
Rome - Civilization

"Tombs - Etruria" and "Funeral Rites and Ceremonies - Rome" were the subject headings for the two items found by searching MARC and BOOKS.

Interesting Query Humanities #2

* *

* How can I eliminate the use of the deduction theorem? *

* *

a) MARC SEARCH STRATEGY

1 ALL BC:(CCN) AND ALL LOGIC (TI)
26

2 ALL BC:(CCN) AND ALL LOGIC (LCH)
13

3 1 OR 2
26

4 STRS 4 (TI) :DEDUCTI:
1

5 STRS 4 (LCH) :DEDUCTI:
NONE

5 ALL DEDUCTI: (TI) OR ALL DEDUCTI: (LCT)
NP (DEDUCTI: (LCT))
2

6 5 OR 6
2

b) BOOKS SEARCH STRATEGY

1 ALL DEDUCTION:
22

2 1 AND ALL THEOREM:
1

c) STATISTICS

	MARC	BOOKS	
Total Retrieved	2	1	
Relevant/Known	0	0	Estimated No. Relevant Items in BOOKS = 1 (no matches.)
Relevant/Not Known	0	1	
Possibly Relevant	0	0	
Not Relevant	2	0	
Precision:	$\frac{0}{2}$ = 0%	$\frac{1}{1}$ = 100%	
Estimated Recall:	$\frac{0}{1}$ = 0%	$\frac{1}{1}$ = 100%	
Time Online:	.07 hr.	.04 hr.	

d) ANALYSIS

MARC: Low precision and recall.

One book which was retrieved caused the comment "Snicker, Snicker," because a title word search for DEDUCTION turned up the book with the title, "Personal deductions in the federal income tax."

BOOKS: The relevant item was retrieved by a simple search of the two words "deduction" and "theorem." The book's title was "Classical Theory of First Order Logic," and its LCH: Logic, Symbolic and Mathematical.

Interesting Query Humanities #3

* *

* What connectives are adequate to represent all truth-functions? *

* *

a) MARC SEARCH STRATEGY

```
1  (LCH) TRUTH-FUNCTIONS
   NP (TRUTH-FUNCTIONS (LCH))

1  ALL BC 171: (CCN)
   NP (BC 171: (CCN))

1  ALL BC:
   58

2  ALL BC: (CCN)
   41

3  STRS 2 (TI) :TRUTH#FUNC:
   NONE

3  STRS 2 (LCH) :TRUTH#FUN:
   NONE

3  STRS 2 (TI) :TRUTH:
   NONE

3  STRS 2 (LCH) :TRUTH:
   NONE

3  STRS 2 (TI) :CONNECTIV:
   NONE

3  STRS 2 (LCT):CONNECTIV:
   NONE

3  ALL CONNECTIV: (TI) OR ALL CONNECTIV: (LCT)
   NP (CONNECTIV: (TI)
   NP (CONNECTIV: (LCT))
```

b) BOOKS SEARCH STRATEGY

```
1  ALL CONNECTIVE: AND ALL TRUTH:
   4
```

c) STATISTICS

	MARC	BOOKS	
Total Retrieved	0	4	
Relevant/Known	0	0	Estimated No. Relevant Items in BOOKS = 1
Relevant/Not Known	0	1	
Possibly Relevant	0	3	
Not Relevant	0	0	
Precision	0%	100%	
Estimated Recall:	0%	100%	
Time Online:	.08 hr.	.03 hr.	

d) ANALYSIS

MARC: Attempts to find "truth" or "truth functions" in the LCH and TI fields proved useless.

BOOKS: A simple search of the terms "truth" and "connective" retrieved four items. The full record, which the requester called a "good reference," and which was not known to him, is included here.

Figure A.IV.2. Sample of Offline Output for BOOKS Search

RSN - 00759652
SNO - 1030
CCN - BC71 P86
ME - Purtill, Richard L., 1931-
TI - Logic for philosophers
IM - New York, Harper & Row, 1971
COL - 419p.
SER - Sources in contemporary philosophy
PY - 1971
LCH - Logic
CT - *PROPOSITIONAL LOGIC (P. 3-46) ; OPERATORS AND CONNECTIVES (P. 4-13) ; TAUTOLOGIES CONTRADICTIONS AND CONTINGENTS (P. 14-21) ; EQUIVALENCES (P. 22-29) ; IMPLICATION (P. 30-39) ; PHILOSOPHICAL DIFFICULTIES (P. 40-44)
CT - *PROOFS AND DISPROOFS (P. 47-76) ; DIRECT PROOFS (P. 48-54) ; DISPROOFS (P. 55-59) ; CONDITIONAL PROOFS (P. 60-64) ; LOGICAL SYSTEMS (P. 65-69) ; PHILOSOPHICAL APPLICATIONS (P. 70-75)
CT - *SYLLOGISTIC LOGIC (P. 77-122) ; STANDARD FORM STATEMENTS (P. 78-85) ; IMMEDIATE INFERENCE (P. 86-96) ; SYLLOGISMS (P. 97-108) ; SORITESES AND ENTHYMEMES (P. 109-116) ; PHILOSOPHICAL APPLICATIONS (P. 117-121)
CT - *CLASS LOGIC (P. 123-154) ; SYLLOGISTIC LOGIC AS CLASS INFERENCE (P. 141-147)
CT - *PREDICATE LOGIC (P. 155-202) ; SUBJECTS PREDICATES AND QUANTIFIERS (P. 156-162) ; QUANTIFIER EQUIVALENCES AND IMPLICATIONS (P. 163-171) ; PROOFS IN PREDICATE LOGIC (P. 172-185) ; DISPROOFS IN PREDICATE LOGIC (P. 186-194)
CT - *EXTENDED PREDICATE LOGIC (P. 203-230) ; PREDICATE VARIABLES AND QUANTIFIERS (P. 204-208) ; IDENTITY (P. 209-213) ; DEFINITE DESCRIPTIONS AND THE IOTA OPERATOR (P. 214-218) ; LAMBDA OPERATOR (P. 219-225)
CT - *PROPOSITIONAL MODAL LOGIC (P. 231-260) ; LEWIS SYSTEMS (P. 243-250) ; PHILOSOPHICAL APPLICATIONS (P. 254-259)
CT - *EXTENSIONS OF MODAL LOGIC (P. 261-291) ; QUANTIFIERS AND MODAL LOGIC (P. 262-268) ; EPISTEMIC LOGIC (P. 269-277) ; DEONTIC LOGIC (P. 278-281) ; . MIXED MODALITIES (P. 282-286)
CT - *LOGIC OF ORDINARY LANGUAGE (P. 292-323) ; . LOGICAL TRUTH LOGICAL FALSEHOOD AND LOGICAL NONSENSE (P. 293-298) ; EQUIVALENCE IN ORDINARY LANGUAGE (P. 299-304) ; IMPLICATION IN ORDINARY LANGUAGE (P. 305-309) ; VALID APPEALS TO ORDINARY LANGUAGE (P. 310-316)
CT - *TOOLS OF ANALYSIS (P. 324-350) ; PROBABILITY THEORY (P. 334-342) ; SCIENTIFIC INFERENCE (P. 343-347)
IT - CARROLL DIAGRAM (P. 138-146)
IT - CONNECTIVE CLASS PROPOSITIONAL (P. 5-12)
IT - DOXASTIC LOGIC (P. 273-277); ONTOLOGICAL ARGUMENT (P. 256-260)
IT - *PROOF (P. 47-75 172-182)